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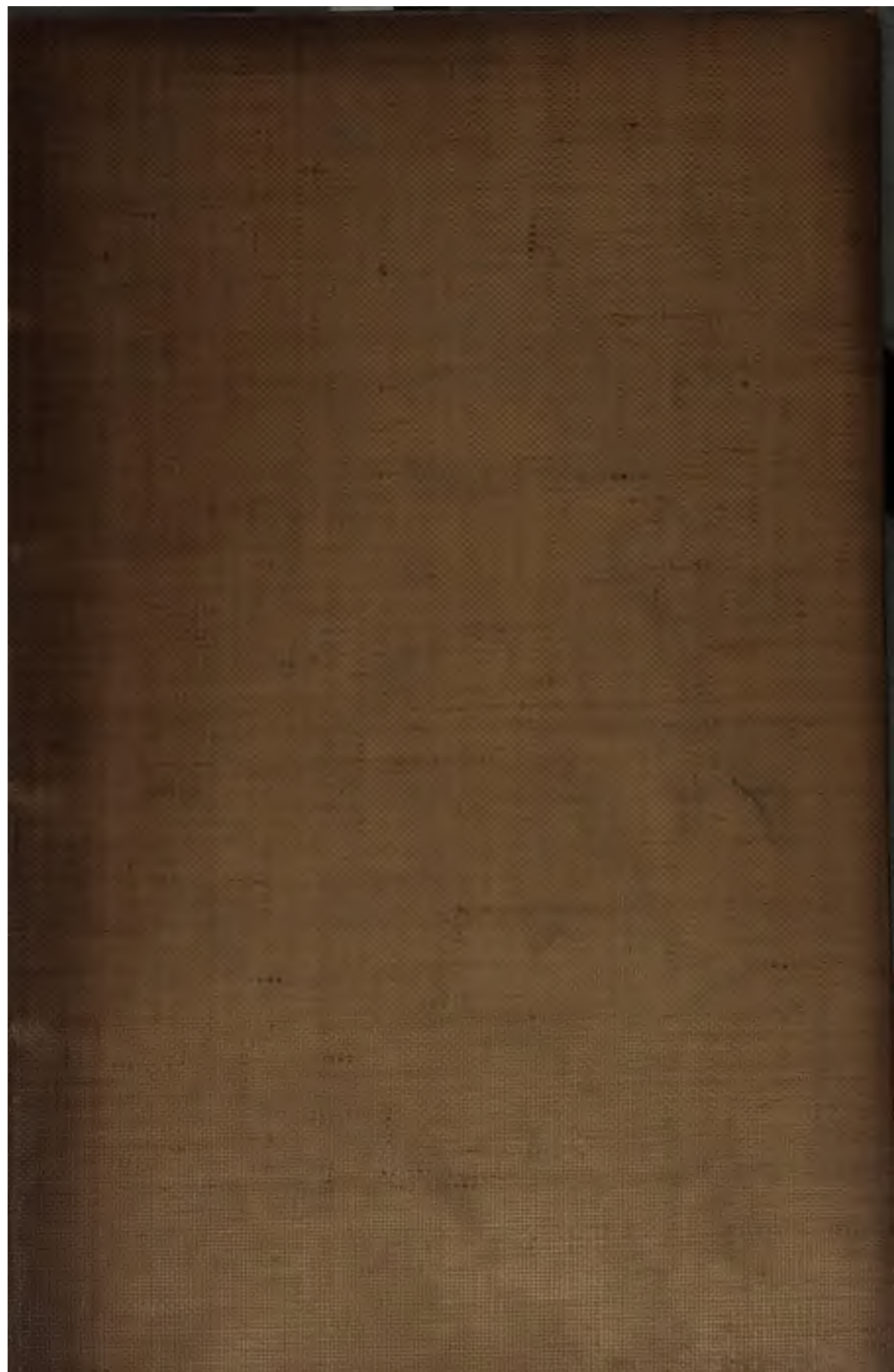
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Per 15012 d. 49



THE ANNUAL REPORT
ON
THE HEALTH,
SANITARY CONDITION,
&c., &c.,
OF THE
Parish of St. Mary Abbotts,
KENSINGTON,
FOR THE YEAR
1877,
BY
T. ORME DUDFIELD, M.D.,
MEDICAL OFFICER OF HEALTH.



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1878.

CONTENTS.

	PAGE
Prefatory Remarks	5
Low Death Rate (General and Zymotic) in 1877 ...	5
Death Rates (1873-7) Parochial and Metropolitan ...	5
Registration "(Kensington)" District, and Registration Sub-districts, what they comprise	6
Sub-districts ("Town" and "Brompton") differences in the rate of mortality, &c., in the	6
Zymotic Diseases	6
Small Pox, epidemic of	7
Typhus Fever, erroneous diagnosis of	10
Enteric Fever, endemic of	11
Hospital Accommodation for Non-pauper Infectious Sick,	19
" " Action of Metropolitan Asylum District Board in relation to provision of	20
" " Action of Vestry	21—2
" " Conference of Vestries and Dis- trict Boards with respect to	22
Fulham Small Pox Hospital, mistakenly supposed to be a source of danger to the neighbourhood	24
Infectious Diseases, prevention of	26
" " Sources of information respecting the existence of	26
Population, &c., of Kensington, and of the Sub-districts, relative proportion of the sexes, number of inhabited houses, &c.	28
Kensington, evidences of the Growth, Wealth, &c., of (1801-78)	29
Marriages and Marriage-rate	29
Births and Birth-rate	29
Deaths and Death-rate (at ages and periods, and of the sexes)	30—32

	PAGE
Deaths, special causes of	33—38
Public Institutions, deaths at	38
Inquests, facts in relation to, and the reason why so many	
Inquests are necessary	40
Violent Deaths	41
Deaths "not certified" (unqualified practitioners) ...	42
Meteorology	43
Vaccination, (Abolition of a "Station" &c.)	43
" Satisfactory character of Officer's Reports	
with respect to	46
Sanitary Department, history of	47
" " Report by Special Purposes Com-	
mittee on	49
Sanitary Work	53
Slaughter Houses, Licensed	54
Cowsheds " proposed regulation of, by	
bye-laws	54
Bakehouses	57
Dust Removal	57
Manure (Stable) non-removal of	58
House Drainage	58
Public Urinals	59
Legal Proceedings	60
Mortuary and Disinfecting Chamber	61
Baths and Wash-houses	64
Water Supply	65
Gas	69
Conclusion	70

APPENDIX.

Statistical and other Tables, I—XII.	76
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TWENTY-SECOND ANNUAL REPORT
 OF THE
 MEDICAL OFFICER OF HEALTH,
 Being for the Year 1877,

To the Vestry of the Parish of St. Mary Abbots, Kensington.

GENTLEMEN,

The year 1877 was remarkable for the lowest death-rate in Kensington of which we have any authentic record. The estimated population at the middle of the year was 151,000, an increase, as compared with 1876, of 3,000. The deaths registered as occurring in the parish were 2,558, and were fewer by 338 than in 1876. This total includes 125 deaths of non-parishioners that took place in the Hospital at Brompton for Consumption and Diseases of the Chest, and are left in the account as a compensation for the deaths of parishioners that may have taken place at hospitals or other places outside the parish. In order to ascertain the correct death-rate, we must add to the deaths registered in the parish 66 that took place at the Hospitals of the Metropolitan Asylum District Board, viz., 60 caused by small-pox and six by "fever," thus raising the gross total to 2,624, a number equivalent to a death-rate of 17·3 per 1,000 persons living, the rate in the whole Metropolis having been 21·9 per 1,000.

The Metropolitan rate was 0·4 per 1,000 below the rate in 1876 : the reduction in the Kensington rate was 2·2 per 1,000.

The following table shows the relative rates of mortality in all London, and the several great divisions thereof, and in Kensington, in the last five years :

Death-rate.	1877.	1876.	1875.	1874.	1873.	
Kensington ...	17·3	19·5	19·4	19·5	18·3	per 1,000.
London ...	21·9	22·3	23·7	22·5	22·5	"
West Districts	19·1	21·0	22·1	20·9	20·5	"
North ..	21·8	21·4	22·3	21·8	21·2	"
Central ..	24·1	24·0	26·0	25·6	25·0	"
East ..	24·4	24·0	25·5	25·4	25·2	"
South ..	21·3	22·1	24·0	21·5	22·0	"

The most satisfactory features in the mortality statistics for 1877 are the diminished death-rate in childhood, and the low rate from zymotic diseases. Thus, instead of 1,305 deaths below the age of five years, and 771 below one year, the numbers in 1876, the deaths under these ages in 1877 were respectively 1,040 and 648, while the deaths from the seven principal diseases of the zymotic

class, including 66 that took place in the hospitals above referred to, were only 339 as against 498 actually registered in the parish in the previous year.

As usual, however, there was a great difference both in the general and in the zymotic death-rate of the two registration sub-districts, "Kensington Town" and "Brompton," and very much to the advantage of the latter. The former district, hereinafter for brevity called the "Town," comprises the whole of the parish north of Kensington High Road, and a good slice south of that line. It has an area of 1,497 acres and it had an estimated population (at the middle of 1877) of 112,250. The "Brompton" area is 639 acres, and its estimated population was 38,750. The Town sub-district includes important open spaces; viz., Holland Park, Kensal Green Cemetery, and fields in the vicinity thereof in which, however, the builder is now hard at work, a plan setting out five miles of new roads having been lately approved by your Vestry. The Brompton sub-district, which has been covered rapidly by new houses, many of them of a palatial character, within the last few years, comprises within its boundaries the West London or "Brompton" Cemetery.

These two sub-districts make up the parish of Kensington: but "Kensington" as a registration district—the parish and the district being often confounded—comprises a great deal more; viz., the parishes of Paddington, Fulham, and Hammersmith. The subjoined figures shew the relative proportions of Kensington parish, and the other parishes comprised in the registration district of Kensington:—

	Area in statute acres.	Inhabited houses, 1871.	Population, 1871.
Kensington ..	2,190	15,735	120,299
Paddington ..	1,251	11,847	96,813
Hammersmith	2,287	6,719	42,691
Fulham ..	1,716	3,469	23,350

For some parochial purposes Kensington parish is divided into wards. The subjoined figures shew the acreage of the several wards, and other particulars of interest which relate to the census year, 1871.

Name of Ward.	Area in statute acres.	Inhabited houses, 1871.	Population, 1871.	Rateable annual value of property, 1871.
Holy Trinity, Brompton..	439	3,224	22,128	£246,716
St. John, Notting Hill and St. James, Norland ..	905	7,730	62,475	£365,012
St. Mary Abbots ..	846	4,781	35,696	£323,992
	2,190	15,735	120,299	£935,720

ZYMOTIC DISEASES.

The death-rate from the principal zymotic diseases was, as already stated, very low in 1877, amounting to 2·2 per 1,000 living

for the whole parish, and to 1·5 per 1,000 only in the Brompton Sub-district. The rate in all London and in “twenty large English Towns” was 3·5, and in “fifty other large Town Districts” throughout the kingdom 3·0 per 1,000. The death-rate from each of these diseases in Kensington, small-pox only excepted, was below the decennial average. The only diseases that call for special notice, besides small-pox, are the principal varieties of “Fever.”

SMALL POX.—The epidemic of small-pox—an account of which occupied a large space in my last Annual Report, the history having been brought down to the month of September, 1877, when the disease appeared to be dying out, not in Kensington only, but in the Metropolis generally, began to assume larger proportions before the close of October, and continued to increase until the middle of April, in the current year, when it again began to decline. The subjoined table shows the progress and the fluctuations of the disease in this parish from what was practically the commencement of the epidemic in October, 1876, to the end of June, 1878 :—

No. of Report.	Date of Report.	Cases Re-ported.	Under 15 yrs. of age.	Over 15 yrs. of age.	Sanitary Districts.		Sent to Hos-pital.	Trea-ted at home
					North	South		
1876. No. 10	1876. Nov. 15	13	5	8	12	1	4	9
14	Dec. 13	36	14	22	22	14	28	8
15	1877. Jan. 10	40	20	20	24	16	30	10
1877. 1	Feb. 7	43	14	29	34	9	24	19
2	Mar. 7	26	12	14	24	2	15	11
3	April 4	24	7	17	22	2	18	6
4	May 2	39	17	22	32	7	23	16
5	„ 30	43	21	22	38	5	29	14
6	June 27	50	20	30	28	22	40	10
7	July 25	43	21	22	25	18	38	5
8	Aug. 22	39	10	29	17	22	32	7
9	Sept. 19	12	3	9	7	5	9	3
10	Oct. 17	19	16	3	7	12	12	7
11	Nov. 14	11	4	7	4	7	8	3
12	Dec. 12	5	1	4	1	4	8	2
13	(to) 31	5	0	5	1	4	4	1
1878. 1	Feb. 6	8	3	5	6	2	7	1
3	Mar. 5	10	1	9	5	5	10	—
4	April 3	16	2	14	6	10	15	1
5	May 1	57	8	49	7	0	47	10
6	„ 29	55	23	32	21	4	35	20
8	June 26	23	8	15	7	6	18	5
TOTALS ...		617	230	387	350	267	449	168

Some particulars were given in my last report with respect to the cases that had occurred from the beginning of the epidemic down to the end of September, 1877. Since that date and to the end of June, 1878, viz., in nine months 198 cases have been reported, of which 58 occurred in the district north of the Uxbridge Road, and 140 in the district south thereof, the majority of the latter in the south-west part of the parish, in the Brompton Poor Law District: 147 of the sufferers were over, and 51 under 15 years of age. The cases recorded in the whole year, 1877, were 359 (240 north, and 119 south of Uxbridge Road). They occurred in 271 houses in 213 streets. Two hundred and fifty-five of the cases were removed to hospitals, and 104 were kept at home. The deaths in the hospitals were 60, and the deaths registered in the parish 24.* The rate of mortality in hospital and home treated cases, so far as known to us, was about the same.

It is probable that some carefully concealed cases may not have come to our knowledge; and, in this event, the per centage of fatal cases would show higher at the hospital than 'at home.' But then it is notorious that many of the cases that are treated at home, are very light, while the gravity of other cases determines in the minds of parents and relatives the necessity for removal to the hospital. I need hardly say that the inspectors are instructed to press for the removal of all cases, and especially of light cases, for these are truly the most dangerous when kept at home, it being found difficult to induce the "sick" person to keep his room, and separate himself from the rest of the world, when he may be unconscious of anything being wrong with him, so far as he can judge by his own sensations, and especially in those instances when the rash is small in amount and more than usually modified and brief in its duration, as a result of previous vaccination. A large, and speaking generally, an increasingly large proportion of the cases have been sent to the hospitals, the popular objection to which, so far as this particular disease is concerned, would appear to be on the wane. Certain it is that the Inspectors do not often experience serious difficulty in getting patients removed, and but rarely meet with an absolute refusal. The cases which, as a rule, are treated at home, are cases that have been concealed, or cases in private houses having such good accommodation as to render removal unnecessary. In some cases that come within the latter class, however, removal to a hospital—the London Small Pox Hospital generally—has been desired by the patient.

There has always been a marked difference in the classes of cases in the two great divisions of the parish, north and south of the Uxbridge Road. In the north children have formed a

* The names of the streets where fatal cases occurred in Kensington are given in Table 9 (Appendix).

large per centage of the cases, whereas in the south they have comprised a somewhat small per centage of the sufferers, and as in the former epidemic, the cases in the north have been grouped more than in the south, where, as a rule, they have occurred singly. But even in the north the single cases have been more numerous during the last twelve months than in the previous year or in the last epidemic. This has been due in part, I believe, to the more early removal of first cases. The age of the children attacked in the south part of the parish has been on an average higher than in the north. In explanation of these differences, it may be stated that children are far more numerous in the north, and overcrowding is more common.

In my last report I gave many illustrative cases of unsuspected channels of communication of the disease. I suspect none is more frequent than premature exposure of convalescent patients who have been treated at home. I well remember in the epidemic of 1871-2, having seen children playing in the streets and doing little errands, with the dying-out rash plainly visible. But no such cases have come to my knowledge during the present epidemic, and I believe more care is now taken to keep the disease from spreading, the public generally having been roused to a sense of the danger. It has happened in many cases that this sense of danger has been the cause of information reaching us of the existence of the disease, viz., through the medium of letters—anonymous or otherwise—and by confidential verbal communications.

There appears good reason to suppose that the disease is spread sometimes through the medium of laundries, either by infection contained in clothing sent to be washed, or by infection distributed with washed clothes, when the disease has existed in the family of the laundress or her employés.

A striking illustration of the danger of sending infected clothing to a laundry was given in my last Annual Report; and though I am not able to prove that the disease has actually been spread from a laundry by the business being carried on during the prevalence of sickness in the family of the laundress, we have done all that we could to put a check on the evil practice, and in a case that occurred during the present year where a boy, the son of a laundress, was ill, and the parents would not let him go to the hospital, but persisted in sending home the washed linen without previous disinfection, proceedings under the 38th section of the Sanitary Act, 1866, were taken at the Police-court before Mr. Bridge, who, as it was a first case, inflicted a mitigated penalty, but at the same time announced his intention to impose the full penalty (£5) in any proved case that should hereafter be brought before him. It is not known that any case of the sort had been previously tried, but I have no doubt of the importance of the

magistrate's decision, or that, judiciously used, it will be very useful as an example and as a warning, in the hands of the Sanitary Inspectors. As it has been stated in another section (Disinfecting Chamber) all sick rooms have been carefully disinfected by one of your Vestry's officers, and the clothing, bedding, and other things that had been exposed to infection have also been effectively disinfected by the firm to which this important work has been entrusted.

"TYPHUS."—Two deaths from this disease were *registered* in December, 1877, and two more in January, 1878, there being nothing, however, to connect the cases in respect of origin, locality, &c. This being so exceptional an occurrence, and entertaining as I did, grave doubts as to the correctness of the diagnosis, I made a careful investigation of the cases. The first case was that of a little boy, aged four years, who died on the 22nd December at Bransford Street. The parents, two other children, and the deceased occupied two rooms, which the inspector found clean and decent when he went to disinfect them. No cause could be assigned for the disease, which is unusual at so early an age, and is commonly the product of infection, or the outcome of squalor, neglect, and unsanitary conditions generally, which had no existence in the present instance; and although the whole of the illness was passed at home, no other person contracted the disease. When I wished subsequently to make a personal enquiry into the case, I found that the family had left their lodgings, and they could not be traced. It may be mentioned that at about the same time as the boy died there was some scarlet fever in the street. The second case occurred at Earl's Court Road, and was that of a married woman, who was in the first instance attended by a local practitioner, who reported the case to me as one of "*enteric fever*, and that of a bad type"—an account supported by his description of the symptoms. The patient died on the 12th December under the care of another medical man (a friend of the family, from Kent), and on the day of her burial her husband was taken ill with unmistakeable symptoms of enteric or typhoid fever, and after a lengthened illness he recovered. In my account on an outbreak of typhoid fever in this parish (page 12), I have assumed that both these cases were cases of that disease, and not *typhus* at all. The third case occurred at Edenham Street, and proved fatal. It was certified as a death from "*typhus, rheumatic fever*," and I accordingly had the room, &c., disinfected. On making enquiry into the case—especially with the view of ascertaining whether the disease had extended, there being nearly twenty persons resident in the house, including the five children of the nurse—facts were mentioned which gave me the impression that this patient had died

from heart disease, consequent on the rheumatic fever; and on placing myself in communication with the certifying surgeon he admitted that there had been cardiac complication, but maintained the existence of typhus. As, however, the patient was perfectly conscious and rational to the last, I cannot but think there may have been an error in the diagnosis—a view borne out in some measure by the immunity of the other inhabitants of the house under circumstances calculated to favour the spread of so infectious a disease. The fourth and last case—whatever its nature, was imported from Marylebone. It was that of a young man who had been engaged in a large house of business in that parish. The patient was seen by the medical man who attended the previous case, but only once, viz., on Wednesday, the 23rd January, the patient dying on Sunday, the 27th, at St. Luke's Mews. The certificate given was "*typhus*:" and although the account I had of the case from the mother and sister of the deceased did not agree with my experience of typhus, I thought it desirable to write to the employers of the deceased, pointing out the possible danger to their establishment, and requesting them to hand my letter to their Medical adviser. This gentleman promptly informed me that the young man, who had been under his care from the 16th to the 22nd of January, was "suffering from typhoid fever and not *typhus*." It would thus appear to be probable that the diagnosis of *typhus* in at least three, if not in all four of the cases, may have been an erroneous one, and being under this impression myself I have felt it my duty to say so, and for this reason:—Typhus fever is one of the most infectious of diseases—a disease it is difficult to prevent from spreading, except under the most favourable circumstances of isolation, &c. It is regarded, moreover, in some degree, as an opprobrium upon the district where it occurs, for its occurrence is a nearly sure sign of something very wrong in the sanitary condition of the people or their surroundings. Taking this view of the case, I presume, the Registrar-General specifies in his "Weekly Return" the very house as well as the street and parish where a death from this disease occurs. He did so with regard to the deaths on which I have made the foregoing remarks, and it therefore not only seemed incumbent on me to make a careful investigation of the cases, but it seemed to me equally a duty to your Vestry and myself that the conclusions to which the investigation had led me should be frankly stated.

ENTERIC FEVER.—The deaths registered from enteric fever, were fourteen in number. Ten of them occurred in the Town and four in the Brompton registration sub-district. The ages of the deceased may be ascertained by reference to Table 3, Appendix. The quarterly numbers of the deaths were 5, 3, 1, 5, respectively. En-

quiry into the history of the cases led me, as in former years, to the conclusion that some of the deaths registered as from "typhoid" were not cases of enteric fever, but different diseases, assuming at the approach of death a "typhoid" character. Some of the cases were imported. Two outbreaks attributed to milk call for notice. The first, an unimportant one, occurred in October, and so far as I know, comprised only eight or nine cases. Three children in a dairyman's family were taken ill—one at home, and the other two some days after they had left home on a visit, and these were the only cases in Kensington; but I was informed that other five or six cases had occurred in two adjoining parishes—all children who had partaken of milk from the suspected dairy. All the outside cases appear to have commenced at about the same time as the first case in the dairyman's family, in the treatment of which proper precautions were taken under medical direction to prevent the spread of the disease. The premises on inspection were found in fair sanitary condition on the whole, some slight defects being remedied forthwith. The milk, which was served out in the shop to the carriers from the churns in which it had travelled, was obtained from two sources—a suburban dairy and a Hampshire farm—the latter supply through a South London milk dealer. I placed myself in communication with the Medical Officers of the respective districts, and ascertained that there had been no case of enteric fever in the families of the cowkeepers nor in the neighbourhood, and that there was no sanitary defect on the premises to which enteric fever could be traced. I submitted samples of the milks to your Vestry's analyst, who reported that the one contained 18 and the other 30 per cent. of added water—a circumstance which did not by any means invalidate the suspicion that the contagium might have been conveyed in the milk. Happily none of the cases, whatever their origin, proved fatal.

The other outbreak, much more serious and very fatal, began at the end of November. The circumstances attending the cases pointed to a probable community of origin in the large majority of them, viz., from the use of a specifically infected milk. The mortality from enteric fever in the fourth quarter of 1877 had been rather below the average—but at about the middle of December I began to be aware that cases of the disease were somewhat more numerous than usual. At that time a medical man called on me and reported a fatal case in his own practice at a house in Fopstone Road. He stated that a second case had been sent from the same house to one of the hospitals, and that there was a third case at the adjoining house. Both families, he said, were supplied with milk from the same dairy, and he expressed a suspicion that the disease was due to the milk. Other cases came to my knowledge in the course of the next few days, and the matter assuming a

somewhat serious aspect, I addressed a circular letter to about one hundred medical men practising in the central and southern parts of the parish, requesting to be informed, Whether they had had any cases of Typhoid fever under their care within the previous six weeks; and asking particulars of any such cases, the probable origin of them, especially with reference to the existence of sanitary defects or a polluted water supply: I also asked to be informed of the source from which families, where sickness had occurred, obtained their daily supply of milk? To this circular I had about fifty replies, verbal or written, and a few new cases were thus discovered, raising the total number, between the middle of November and the end of January, 1878, to some thirty cases. Sixteen of the cases had this feature in common, that the families in which they occurred had their milk from one of the largest and best known dairies in the parish. The first of these cases was recognized on the 18th November, and the last case on or about the 16th December.* The 16 cases occurred in thirteen well-to-do families in as many houses and in nine streets. Ten of the sufferers were above 15 years of age, and six were children ranging in age from two years to eleven. Six were female domestic servants. The total number of persons in the several households was 161—adults 113, children 48. Six of the persons attacked drank milk freely: most of the others in the usual quantity—*i.e.*, a little—in two or three instances a very little, with tea, &c. Eight died—four at home and four in hospitals. The weekly number of cases was 2, 3, 6 and 5=16: six males and ten females.†

The circumstance that the sufferers had presumably partaken of milk obtained from one dairy naturally engaged my attention in the first instance and satisfied me of the *prima facie* reasonableness of the suspicion that had been so freely expressed regarding milk as the *fons et origo mali*. There was nothing novel in this suspicion, for milk has again and again been proved to be the medium in which the infective agency of typhoid fever had been conveyed. Milk has the power of absorbing the poison germs when stored in the vicinity of the sick or when exposed to the infected emanations from foul drains; but usually the poison has been introduced into the milk by the addition to it of specifically polluted water, *i.e.*, water contaminated by the infective discharges from the bowels of the sick.

It follows that in the investigation of outbreaks of typhoid fever, enquiry should be specially directed to the discovery of any source of polluted air or water: attention therefore was first given to the

* Thirteen of the remaining cases were posterior in origin to December 16th. None of them had partaken of milk from the suspected dairy, and they do not call for any special notice.

† For particulars of a somewhat important (17th) case that did not come to light till after the enquiry had been completed, vide page 19.

condition of the dairy and the cowshed, the latter being the most extensive in the parish. A careful inspection of these premises—made without warning—failed to reveal anything to account for the outbreak. There was no sickness in the dairyman's family; the water supply was good, the cistern being clean and having no connection with any drain, soil-pipe, &c. The water supply at the cowshed was equally satisfactory (the cistern, indeed, having been erected some years ago at my instance); and the sanitary condition of the premises which are regularly inspected, presented no features to call for notice. The health of the ninety cows found in the shed was satisfactory. A diligent enquiry into the details of the business arrangements failed to reveal anything; and, lastly, it was ascertained by visitation that there had been no illness—specific or otherwise—in the homes of any of the employés. I ascertained, however, that in addition to the 'shed' milk the dairy had supplies of country milk from two Berkshire farms in the Wantage and Faringdon Unions respectively. The Wantage milk—about three hundred quarts—came from a model farm belonging to a gentleman of considerable landed estate. This milk was received only in the afternoon, and therefore was the product of the morning's milking. The Faringdon supply consisted of one 'churn' (about 65 quarts) in the morning, and a like quantity in the evening. All the thirteen families had had country milk morning or evening. I lost no time, therefore, in putting myself in communication with the medical officers of health for the Wantage and Faringdon rural Sanitary Districts, begging them to have the farms inspected, "With a view of ascertaining (1) whether at or near them there were, or had lately been, any typhoid fever cases; and (2) whether there were any sanitary defect or polluted water supply to which such an outbreak (as I had described) could be fairly traced?" These gentlemen, Mr. Barker, of Wantage, and Mr. Maskelyne, of Faringdon, favoured me with reports which were exculpatory as regards the health of the people and the cows, and also with respect to the sanitary condition, water supply, &c., of the premises.

Before the first of the reports came to hand, and having learned that the Wantage evening milk was sent to a large and respectable dairy in an adjoining parish, I communicated with the Medical Officer for that district, who informed me that he knew of no cases of typhoid fever in his district, and that he, personally a large consumer of milk, was a customer of the dairyman who received the Wantage milk. It came to my knowledge at a later period that the Kensington dairyman did not receive the Wantage milk until some days after the commencement of the epidemic. There being some unavoidable delay in getting information respecting the Faringdon milk, the dairyman, acting upon my advice, and simply as a matter of precaution, gave it up, but

not until the last day of the year; so that, allowing a short period for incubation if this milk had been in fault, fresh cases of illness might have been expected, even so late as three weeks after the recognition of the last case. But none such occurred. The inference fairly deduceable from this immunity was borne out by two facts that subsequently came to my knowledge, viz., (1) that the two supplies of country milk were mixed for the evening delivery, so that practically the Faringdon milk, mixed with a large quantity of the Wantage milk, was supplied daily during the month to all the customers (about 500), and yet typhoid fever appeared in only thirteen families; and (2) that not only was the Faringdon milk sent out pure to many of the customers in the morning (this being the sole morning supply of country milk, and the "shed" milk never being mixed), but two local retail dairymen in a small way of business were supplied from the farm-churns night and morning, and yet no case of illness occurred among their customers, who are mostly poor people, served across the counter.

Having thus shown the want of evidence to connect the outbreak with milk, it may not be out of place to enquire whether it had the characteristics of "milk typhoid"—whether the facts tally with those of unquestionable endemics of this kind, which have been investigated by competent medical and sanitary authorities—*e.g.*, the one at Islington, reported by Dr. Ballard, then (1870) the Medical Officer of Health for that parish, but now of the Local Government Board; and the other at Marylebone (1873), reported by Mr. J. Netten Radcliffe and Mr. Power, of the Local Government Board, and Dr. Whitmore, the Medical Officer of Health for the parish of Marylebone? These endemics, agreeing in most particulars, presented one point of difference which rather increases their value for the present purpose, viz., that while the latter was proved due to the *specific* pollution by typhoid excreta, of the water used for dairy purposes, the pollution of water in the former appeared not to be of a specific character; but to depend on the absorption of sewer gas, under circumstances which I need not particularise.

The first point to be noticed is the number of persons attacked in the several outbreaks? At Islington in ten weeks there were 175 cases in 70 families out of 142 which had milk from the offending dairy. At Marylebone 244 "unmistakeable" cases occurred within a period of four weeks and in 132 families, 118 of which had received the infected milk; 218 of the cases being found in these 118 families. In 77 out of 88 streets where the disease was met with, this milk had been supplied. The infective agency—the specific contagium of typhoid, was ultimately proved to have been in the milk from one farm, and this milk was sold as "nursery milk." So far as the general milk supply of the town-dairy was contaminated, it was shown to have been due to the ad-

mixture with surplus nursery milk. At Kensington there were 16 cases only, in four weeks, and in thirteen families. These families were spread over nine streets, comprised in six milk deliveries: in these nine streets the dairy counted 116 customers. In all these outbreaks women and children furnished the larger number of victims, probably either because women and children drink more freely of milk than men, or because, spending more of their time within doors, they are more exposed to the danger of breathing contaminated air. In the Islington outbreak, 44 men, 97 females above ten years of age, and 32 children, were attacked; in Marylebone, only 29 men, 119 women, and 96 children: in Kensington, two men, 8 women, and 6 children. The sufferers belonged to the better or well-to-do classes. At Marylebone and Kensington the proportion of sick female domestic servants was large—absolutely and relatively, and about equal, viz., Marylebone, 92 out of 244 cases (=37 per cent.) Kensington, 6 out of 16 (also 37 per cent.)

So far the agreements. But when we inquire into the distribution of cases in families, we discover material differences. Thus, in Islington there were but 22 solitary attacks—out of 175: the cases mostly occurred in groups of from two to eight in a family, the average being a little over three. So in Marylebone groups of cases, ranging from three to six in a family, were observed, and in one house, out of 30 children, 18 were stricken: but in Kensington ten of the sixteen cases were solitary—there were only three groups of two cases in each, viz., in one family two young children; in another, a married couple; and in a third, a child and a nurse—the second cases occurring not simultaneously but after many days, so that for the purposes of the enquiry, *qua* origin of the outbreak, they may be entirely disregarded. In one house containing 28 persons, of whom 20 were children, and where 16 pints of milk were consumed daily, there was but one case—a servant.

At the time of the Islington and Marylebone outbreaks, Typhoid fever was comparatively in abeyance in those portions of the parishes where the infected milk had not been distributed, and, I believe, in the Metropolis generally; but the Kensington cases occurred at a time when the disease is known to have been more than usually prevalent.

In respect of the fatality the several outbreaks presented marked differences. Thus, in Islington about the ordinary percentage of cases (17) proved fatal, a rather remarkable and suggestive fact *qua* origin, seeing that "milk typhoid" is usually a mild form of the malady: in Marylebone the mortality was only 10·6 per cent.; but in Kensington 8 out of 16 persons attacked died, equal to a rate of 50 per cent. This rate, however, would be considerably reduced if the whole of the cases were taken into account, for of

the 30 known cases only ten died, or 33·3 per cent. The high rate of mortality among the sick who had partaken of milk from the suspected dairy is, *prima facie*, an argument against the milk theory.

But such an unusual fatality testifies to the virulence of the infective agency, whencesoever derived. It also suggests the questions, "How was it that with a poison of such intensity distributed among so many hundred persons—if milk was the vehicle of the *contagium*—so few persons suffered, and they so sorely?" And if milk was not in fault, "To what cause or causes are we to attribute the outbreak?" To the former question I can give no answer, but to the latter I would reply, "Presumably to one or other of those causes of water or air-pollution to which the occurrence of ordinary cases of typhoid fever is usually traceable," viz., to defective sewerage or drainage—to the breathing of polluted air, or the drinking of polluted water, leaving out of the question whether specific pollution of air or water, is essential to the causation of typhoid. And here I would observe that the possibility of such an origin had not been overlooked from the first, though the enquiry was primarily directed to the discovery of the source of the suspected milk infection; and inspection of the houses where the disease had appeared did, in fact, reveal, in nearly all of them, such sanitary defects as would, in almost any of the 16 cases occurring singly, have been deemed adequate to account for the illness—the difficulty of admitting this explanation, however, being increased by the coincidence of a common source of milk supply.

It is needless to detail here the various sanitary defects referred to; it may suffice to say that they comprised untrapped, unventilated, and otherwise defective drains; cisterns and baths in communication with drains by waste pipes; offensive water closets, in some cases near sleeping rooms; and in some of the streets sewers defective in construction or material, three of them having blind or dead ends.

It will be conceded that such sanitary defects as the above are sufficient to account for the occurrence of typhoid fever in the individual cases; but excluding the milk theory of infection it is not easy to account for the occurrence of so many cases within so short a space of time, though at considerable distances apart. I have thought, however, that an explanation of the difficulty might be found in the facts—(1) that typhoid fever was unusually prevalent in the Metropolis at the time of this outbreak, and (2) that the streets in Kensington in which the disease appeared belong to the same system of drainage. The sewers are affluents of an underground river, known as the Counters Creek sewer, which traverses the parish near its western boundary, from north to south, terminating at the Grosvenor Bridge Pumping Station.

Much infected excrementitious matter must have passed into the main sewer between November 18th and December 16th (and cases had certainly occurred in the course of it not long before): it is not difficult to conceive, therefore, that the air circulating in it, and through its affluents, had become specifically poisoned, and that the gases escaping into houses where sanitary defects existed; or becoming, in some cases, absorbed by the water in cisterns, may have caused the mischief. Insanitary conditions, it is well known, lower the health of those exposed to them and prepare the system to succumb readily to zymotic poisons. Such insanitary conditions existed in many of the houses, and the persons most exposed to them— not the chief milk drinkers, but the servants who inhabit basements were, as a class, the most numerous victims. The theory here put forward would help us to explain the high rate of mortality in our sixteen cases—a fatal y which, as before observed, militates against the milk theory. It is consistent, moreover, with the results of the investigation of similar outbreaks in small towns, where the conditions were less complex, and the conclusions arrived at were of a more demonstrable character, and it is supported by certain inferences that may be fairly drawn from the facts of the cases:—

For example, there was a case in each of two adjoining houses, the second case beginning thirteen days after the first. The milk in the second family was not obtained from the suspected dairy, and the illness was attributed to a sanitary defect similar to that which existed in the first house.

In another street there were cases in adjoining houses—an interval of thirteen days separating them. The families had milk from the same suspected dairy: but in both houses there were similar sanitary defects.

The same relations in respect to the situation of houses, and the commencement of cases, existed in a third instance: and in two others, in two streets, there was a similar state of things, though the houses were not so close together, but the milk in all these instances was obtained from the suspected dairy. This is the suspicious feature in the cases: but the essential facts to which I would allude are, (1) that in all the cases above glanced at sewer gas was found to have free entrance into the houses: and (2) that an interval of many days separated the cases, in respect of time, both in contiguous and detached houses in the same streets. Excluding secondary cases in the same houses, we have only 13 cases to deal with, and the points alluded to are applicable to eight of them.

Had the outbreak depended on milk I cannot but think the cases would have been more numerous, and that there would have been large groups of cases occurring almost simultaneously: whereas, though there were many children in some

of the houses, no such thing happened. My own impression is that the infective agency operating in the first cases was contained in, and conveyed through, the sewers and house drains, and that the illness in second cases in the same streets may have been due to the infected condition of the sewers. In three of the streets, where eight cases occurred, the sewers, as before stated, have blind or dead ends, which always involve the risk of a heavy pressure of sewer-gas on the drain inlets of the adjoining houses, as I pointed out in a Special Report on the drainage of the Elsham Road and its vicinity (April 1875.)

I shall add but one fact, and it is one of some importance, which came to my knowledge after the close of the enquiry. A case (seventeenth of the series) occurred in a family of seven persons, the milk being supplied from the suspected dairy, and within the period to which the other cases belong (viz., on December 10), the sick person, however, being the only member of the family who never took milk. I do not wish to attach too much importance to this case, but, taken in conjunction with the facts of other cases, (viz., of persons being affected who scarcely ever touched milk), I think it lends, negatively, some support to the theory by which I have sought to explain the outbreak in a manner opposed to my first impressions.

HOSPITAL ACCOMMODATION FOR NON-PAUPER INFECTIOUS SICK.

In my last annual report I entered fully into this important question, which has made little or no progress since the date of that report. Happily, the question is no longer one of pressing interest for this parish, as, owing to the cordial relations that exist between your Vestry and the Guardians of the Poor, the hospitals of the Asylum Board, of which the Guardians' officers hold the keys, are freely open to the non-pauper sick; the Guardians having recognized the necessity of isolating cases of infectious disease, and acting on the principle that it is better, and in the long run cheaper, to secure isolation, at the general cost for the general good, than to allow disease to spread from the want of it. It is obvious, moreover, that if the public purse must bear the charge, it matters little out of which pocket the money is taken, whether, that is, your Vestry pay out of one rate or the Guardians out of another. Without a hitch or obstacle of any kind, therefore, every case that we desired to have removed has been removed, and our thanks are due to the Guardians and to their officers for their co-operation with us in promoting the sanitary interests of the parishioners.

But in some districts of the Metropolis, from whatever cause, things do not work so smoothly, and the proper mode of dealing

with the non-pauper sick is still a burning question. It is a question which should be settled, no doubt, and on some definite principle, forthwith, and it may be expected in quieter times to receive that attention from the Government and the Legislature to which its importance gives it a claim.

The only suggestion of a public nature (so far as I know), that has been offered since the date of my last report, proceeded from the Board of Works for the Limehouse District who, in a Memorial addressed to the Metropolitan Asylum District Board—after setting out the “almost insurmountable obstacles” to provision of hospital accommodation being made by the Sanitary Authorities (under section 37 of the Sanitary Act, 1866), stated their opinion that “the most practicable way of overcoming the difficulty in providing Hospital accommodation for Non-Pauper cases in each district would be for the Metropolitan Asylum District Board, who already have the necessary staff and appliances, to make arrangements, upon the request of the Sanitary Authorities, to receive any person, not in receipt of parish relief, whom the Sanitary Authorities might require to have removed to Hospital, and that the Asylum Board should provide a separate Department for the accommodation of such cases, so that they could be kept distinct from Pauper Patients.”* The Limehouse Board were further of opinion “that the Sanitary Authorities should pay for the accommodation provided for Non-Pauper cases by an annual payment, whether such accommodation is required or not, or by a fixed sum for each patient sent.”

The Asylum Board having referred this Memorial to the Committee for General Purposes, the Committee in their report dated 18th March, 1878, recounted the steps taken in 1877 by the Managers to meet the difficulty, and the conclusions to which they had unanimously arrived, and which were set out in my Annual Report for 1876, (page 13), and they referred to the action taken by the Managers in suggesting to the Local Government Board that clauses 56 and 64 of the “Public Health (Metropolis) Bill, 1877,” should be amended by making it

“Incumbent upon all Local” (*i.e.*, Sanitary) “Authorities either to provide the requisite Hospital accommodation for their Districts, or failing their so doing, within a specified time, to contract with the Managers of the Metropolitan Asylum District for the reception into their Hospitals of persons other than paupers who may be suffering from infectious diseases.

“The withdrawal of the Bill subsequent to its second reading, however, left this all important question in abeyance.

“It will thus be seen,” the Committee continue, “that the

It may be remarked that paupers constitute less than ten per cent. of the sick.

the Limehouse Board of Works have memorialised the Managers has already been fully considered and dealt with, and that the Managers used their best endeavours to obtain through the Local Government Board, the requisite authority to receive into their Hospitals, and, if necessary, powers to provide additional accommodation for, Patients other than those of the Pauper class. It now rests with the several sanitary authorities, either collectively or individually, to take the matter up and deal with it as they may think best "

The Managers having taken the subject into their consideration, resolved to forward the memorial of the Limehouse Board of Works, together with a copy of the Report thereon of the Committee for General Purposes to the several Sanitary Authorities : and they asked them to inform the Managers as to " how far they agree with the Limehouse Board of Works in the views which they have enunciated, and upon which they have memorialized the Managers ? "

The reply of your Vestry to this question was forwarded in the shape of the Report of the Special Purposes Committee (March 20), on communications of a similar purport received from the Managers in 1877, and in which the views of the Limehouse Board of Works, and the views now apparently entertained by the Managers, appear to have been anticipated. The report was as follows :—

- " Your Committee have to report that they have very carefully considered the several suggestions contained in the report sent from the Managers, and have had before them a report presented by this Committee to the Vestry on the 17th January, 1877, submitting that ' it is inexpedient and unnecessary for this Vestry to provide hospital accommodation, seeing that the whole of the cases can be so easily dealt with by extending the powers of the Metropolitan Asylum Board so as to enable them to provide for all persons in the Metropolis suffering from small pox or other infectious disease, and requiring isolation in hospitals. '
- " Your Committee agree with the Managers that adequate provision for the isolation and treatment of epidemic infectious diseases in the Metropolis does not exist, and that such provision could be best made in a comprehensive and systematic manner by one Central Authority acting for the whole Metropolis, not only for pauper patients, but for other classes in need of hospital accommodation.
- " Your Committee are also of opinion that the Metropolitan Asylum Board should be such Central Authority, its constitution being altered and adapted to its enlarged duties and responsibilities ; that the expenses of persons, not being paupers, admitted into the hospitals on the recommendation of Vestries and District Boards under sec. 37 of the Sanitary Act, 1866, should be defrayed out of a Metropolitan Rate or Common Fund, and that the relief so granted to persons suffering from infectious disease should not be deemed parish or poor relief, and should not involve the loss of any rights possessed by the said persons."

My opinion having been asked at the same time, the views I

then entertained, and which subsequent experience has strengthened and confirmed, were set out in a letter to the Managers, published at page 15 in my Annual Report for 1876, and in a Report on the subject, dated January 10th, 1877.

It will be interesting to learn, in due course, the general purport of the replies of the several Authorities to the circular letter of the Managers, and to see to what extent the views expressed in the above documents are generally entertained. I shall hope to find that there is a growing sentiment in favour of placing the provision of hospital accommodation for all classes in the able hands of the Managers, while reserving to the Sanitary Authorities, in their respective districts, the carrying out in all other respects of the provisions of the Sanitary Acts for the prevention of the spread of infectious diseases.

Shortly after the above section on "hospital accommodation" was in type, a communication was addressed by the Limehouse Board of Works to the Vestries, &c., inviting them to appoint Delegates to attend a Conference "on the subject of the provision of hospital accommodation for persons suffering from infectious diseases." Your Vestry appointed four Delegates—viz., Drs. Daniell and Pocock, H. Jacobs, and W. A. Lindsay, Esqrs.—with whom I attended the Conference held at the Cannon-street Hotel, on the 16th June. At the first meeting no decision was arrived at, and this negative result appearing to be due to a want of information on the subject on the part of some of the Delegates from other parishes, and your Vestry having given great attention to it on many occasions during the last few years, your Delegates thought it desirable to cast into the form of a set of propositions the views which had at sundry times been expressed by your Vestry, and to recommend that a copy of them be sent to each of the Delegates from the several Vestries and District Boards of Works. The propositions referred to were as follows:—

1. That the provision of hospital accommodation for the large class of persons whose isolation in hospitals is necessary for preventing the spread of infectious diseases can be best made in a comprehensive and systematic manner by one Central Authority acting for the whole Metropolis.

2. That the Metropolitan Asylum District Board should be such Central Authority, the Managers already having in the several hospitals erected under their auspices, nearly sufficient accommodation to meet the requirements of the sick of all classes—excepting those who may be able and willing to pay for hospital treatment, and for whom provision is already made, or could be made at the London Fever Hospital and the London Small-pox Hospital.

3. That steps should be taken to obtain an Act of Parliament to alter the constitution of the Metropolitan Asylum District

Board by severing its connection with pauperism in so far as relates to the treatment of infectious diseases ; and by providing for the election of a certain proportion of the "Managers" by the several Vestries and District Boards of Works, the Sanitary Authorities within the Metropolis.

4. That pending such legislative action, and seeing that the hospitals of the Managers have been established at the public cost and for the common good, no compulsory payment should be exacted from any persons whom the Sanitary Authorities may deem it necessary or expedient to remove to the hospitals for the sake of isolation ; and all expenses incident to the maintenance of such persons in the hospitals should be defrayed out of the general rate.

NOTE.—Under the proposed altered constitution of the Board the hospitals should be supported out of a Metropolitan rate ; or power might be given to the Managers to issue precepts on the several Sanitary Authorities for their quotas of the expenses.

5. That the admission into the Hospitals of persons suffering from infectious diseases should not involve the loss of any political or other rights by the said persons.

NOTE.—It is proposed to place the treatment of infectious diseases on the same footing as Public Vaccination. In other words admission into the Hospitals should not be deemed to be Parish or poor relief. It has been ascertained that on the 15th February, 1877, the proportion of patients in the several Asylums who acknowledged to having previously received parochial relief was under ten per cent.

6. That in order to facilitate the "stamping out" of infectious diseases provision should be made for the disclosure to the Sanitary Authority of all cases of such diseases in such manner as to the wisdom of Parliament may appear most expedient.

Your Vestry referred the propositions for consideration and report to the Special Purposes Committee, and subsequently "believing that the principles therein contained are sound, and if carried into effect, would be conducive to the public welfare," adopted the propositions "as a basis of policy to guide the Delegates" from Kensington : and directed that "a copy thereof be forwarded to each of the Delegates of Vestries, &c., prior to the adjourned meeting of the Conference, to be held on the 16th July." It being well known that I had paid some considerable attention to the subject, and had dealt with it fully in my Annual Report for 1876, which moreover contains a summary of the proceedings of your Vestry, and other public bodies in relation thereto, the committee recommended, and your Vestry ordered that the section of the Report (p. 8—21) on "Hospital accommodation for the Non-pauper Infectious Sick," be reprinted, and a copy thereof sent to each of the Delegates.

This was done, and it is not too much to say (for it was spontaneously admitted at the adjourned meeting of the Conference

held on the 16th July) that by the circulation of these documents an essential service has been rendered by your Vestry to the cause of sanitary reform, the light thereby thrown upon the whole question having "smoothed away every difficulty" and led, in the course of half an hour, to the unanimous adoption of the following resolution, viz.:

"That in the opinion of this Conference many almost insurmountable obstacles present themselves to the carrying out by the Vestries and District Boards of the Metropolis of the powers conferred upon them by the 37th sec. of the Sanitary Act 1866. And it is further of opinion that it is desirable that provision should be made by Act of Parliament for one Authority acting for the whole Metropolis to provide hospital accommodation for non-pauper persons suffering from infectious disease, and is further of opinion that such authority should be as far as possible representative."

A further resolution to the effect

"That a copy of the foregoing Resolution be sent to each of the Vestries and District Boards of the Metropolis, with an invitation to them to state whether they agree therewith,"

was also unanimously adopted, and the Conference adjourned to a day in October, to be subsequently fixed by the Limehouse Board of Works, for the consideration of the replies of the Vestries and District Boards, and to determine on the steps necessary to be taken to carry into effect, by legislative action, the views embodied in the first resolution.

FULHAM SMALL-POX HOSPITAL.

In the month of March the Metropolitan Asylum District Board opened a hospital in the parish of Fulham, west of the railway and south of the West Brompton Station, for the treatment of infectious diseases. From that time to the present whenever there has been any increase in the number of small-pox cases in the south-west corner of the parish alarm has been occasioned by the suspicion that the hospital in some occult way may have been the cause of the spread of the disease. Excepting in one case,* where there appeared to be a probability that a female might have been indirectly infected by her daughter, a servant at the hospital, viz. by *contagium* conveyed in body clothing, no case has been put forward to give colour to the suspicion which has been somewhat generally entertained, principally owing to the injudicious support it has received, without any scientific evidence, from a small number of professional men.

That an infectious disease hospital might easily become a source of danger to the locality in which it is placed, viz. by the

* *Vide* Monthly Report, No. 4 (April 3, 1878), page 27; and No. 6 (May 1), page 39, for the particulars of the case.

conveyance of infection indirectly. *e.g.*, in the clothing of the officers, or of the visitors to the sick ; or even by the want of proper care on the part of the drivers of the ambulances, or the attendants on the sick *en rout**, must, one would think, be obvious ; and it speaks well for the success of the precautionary measures taken to avoid these sources of danger that they have scarcely been noticed even by those who are most hostile to this particular hospital, and who, it may be inferred, would have called attention to them had they possessed any information on which to found a charge. But such has not been the case ; and the only charge brought against the hospital is that it has been the direct means of spreading the disease by *contagium* carried across hundreds of yards of open spaces to the streets nearest the building—nearest, that is, in Kensington and Chelsea ; for strange to say the disease, according to the evidence of my colleague, the Medical Officer of Health for Fulham, has been almost entirely absent from the district immediately contiguous to the hospital, the supposed centre of infection. Those who know how limited is the area of infection even in small-pox, would scarcely have conceived the possibility of such a theory being put forward in respect of the Fulham Hospital, seeing that on three sides it is far distant from inhabited houses, whatever suspicions might have been more or less reasonably entertained in respect of other hospitals less favourably situated. But even in respect of other hospitals I have not been able to obtain any reliable evidence against them ; and surely this is a case in which the *onus probandi* rests with the accusers. With reference to the Fulham Hospital, I have entered so fully, in some of my Monthly Reports,* into the inquiry suggested by the suspicions referred to, that I do not feel it necessary at the present time to travel over the ground again, having, in the judgment of competent authorities, not merely demonstrated the want of evidence in support of the assertions on which the hospital theory of infection has been founded, but also shown the improbability of the hospital ever becoming a source of direct infection to the neighbourhood.

It may be stated that the maximum number of Brompton cases of small-pox occurred both in 1877 and in 1878, at the periods of the greatest prevalence of the disease in the Metropolis generally, and that the supposed relation between these *maxima*, and the reception of acute cases of the disease at the hospital was founded on imperfect information. The Brompton outbreaks did not commence till long after the hospital had begun to receive acute cases, and they terminated in both years long before the hospital, owing to the decline of the epidemic, had ceased to receive this class of cases.

* No. 9, 1877 (page 46), and No. 5, 1878 (page 31), &c. ; and a Special Report on the subject, No. 7, 1878.

PREVENTION OF THE SPREAD OF INFECTIOUS DISEASES

Is one of the chief duties appertaining to the office I hold ; and it is one which constantly engages the attention of all the officers in my Department. A difficulty with which we have to contend is the want of information of the occurrence of non-fatal cases of illness ; and it has been my constant endeavour to increase our sources of such information.

It may not be out of place to state what progress has been made :—

1. By virtue of the arrangement entered into between your Vestry and the Sub-district registrars of deaths, seven years ago, I duly receive notice of all deaths from the graver infectious diseases (small pox, scarlet fever, diphtheria, typhus, enteric and simple continued fevers), within a few hours after they have been registered. It may be observed that when a death has occurred from an infectious disease there is always a probability of finding other cases of illness in the same house or locality, and such discovery not unfrequently results from the Sanitary Inspector's visit. Now and then the registration of a death has been unduly delayed—sometimes probably with the object of temporary concealment of the cause of death. It would be well if registration within a limited period, say twenty-four hours, were made compulsory.
2. The Relieving Officers, by direction of the Board of Guardians, report all cases of infectious diseases that come under their cognizance, and generally these are cases that have been, or are about to be, removed to the hospitals of the Metropolitan Asylum District Board, admission to which (practically denied to no person) can only be obtained on the order of a relieving officer, or the master of a workhouse.
3. Similar information is given by the Resident Medical Officer of the Kensington Dispensary, by direction of the Committee of Management ; but we seldom hear of sickness through any similar institution ; and it is matter of regret that many cases that ought to be removed to the hospitals are kept at home, and treated by medical men attached to the so-called "provident dispensaries."
4. Medical men favour me occasionally with information of cases, and more especially when they desire assistance in order to get the sufferers (*e.g.*, domestic servants) removed to the hospitals.
5. A somewhat important step in advance has been effected lately by the action of the London School Board, who, at my request, have instructed the Superintendents of Divisions throughout the Metropolis to desire the "Visitors" to report

to the several Medical Officers of Health any cases of infectious disease that may come to their knowledge in the discharge of their official duties, which take them constantly into the homes of the poorer classes. To facilitate the transmission of this information by the "Visitors," your Vestry authorised me to prepare a form for their use, which has been done.

6. Clergymen and District Visitors not unfrequently report cases of sickness.
7. The Resident Medical Officers of St. George's and St. Mary's Hospitals have on many occasions reported the admission of cases, or the application by inadmissible cases, of illness from houses in this parish.
8. Occasionally anonymous communications are the source of information, for I have not felt at liberty to disregard such communications, which have generally proved accurate.

In these several ways many cases of illness come to our knowledge; but, all told, they form only a small percentage of total cases, as proved by the fact that the large majority of fatal cases remain unknown till after registration of death—a fact from which it is a fair inference that a still larger proportion of non-fatal cases never come to our knowledge at all.

The only remedy for this regrettable state of affairs is legislation for the compulsory disclosure of the occurrence of infectious diseases. The only question among sanitarians is, Who should be the informant? As a rule the information will have to come, directly or indirectly, from medical men. In those cases, and they are not few, where either no medical aid is sought, or where unregistered practitioners are employed, the information, if supplied at all, must come from the head of the family or from the "occupier" of the house. Where there is a duly qualified medical man in attendance it would suffice to require that he should give a certificate showing the nature of the complaint, which it should then be the duty of the head of the family, or the occupier of the house, to forward without delay to the sanitary authority, as is done now in respect of the medical certificate of the cause of death. This is the plan recommended by the Society of Medical Officers of Health and it is I believe the course adopted in those boroughs where under *Local Acts*, the disclosure of such cases has already been enforced. Having regard to the relations of doctor and patient, it is useless to expect that the desired information will be at all generally given by medical men until it is made their duty as law-abiding citizens, to supply it: and even then the exaction should be made as little onerous as possible, whether or not the public service rendered by the giving of such certificates is recognised by the payment of a suitable fee.

POPULATION, &c.

The estimated population of Kensington in July, 1877, was 151,000, an increase of 3,000 during the year, viz., 2,090, the balance of births in excess of the number of deaths, and 910 the gain by immigration. It is always difficult, as I have stated in former reports, to estimate the population at *inter-census* periods; I have good reason to suppose, however, that the above figures do not differ widely from the truth: based as they are on the number of inhabited dwellings, and on the known average number of persons to each house as ascertained at the last census. It is even more difficult to determine the relative proportion of the sexes, and the numbers of persons living at different groups of ages, seven years after a census, and especially in a district where the population has increased so rapidly, chiefly by immigration, as in Kensington. The subjoined table, however, furnishes us with some interesting and reliable figures on these points, ascertained at the census, 1871.

AGES OF MALES AND FEMALES, 1871.

All Ages.	Under 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to 95	95 and upwds.
Males, 45977	7065	10198	8918	8317	5963	4339	2164	1270	378	33	2
Females 71322	7147	11527	16555	14203	9080	6241	3768	2006	667	97	7
Total, 120299	14212	21722	25533	22520	15043	10580	6232	3276	1045	130	9

In April, 1871, the Kensington Town registration sub-district contained a population of 91,645, and the Brompton sub-district 28,654. So far the certainties. I estimate the population of the "Town," at the middle of 1877, to be 112,250, and that of Brompton 38,750. The population of the last named district has probably increased during the last two or three years at a greater relative rate than that of the Town sub-district—if we may judge from the activity in the building trade and the large number of new houses that have been built—not forgetting, however, that many of these have yet to find occupiers. I have greater diffidence in estimating the relative numbers of the sexes. We know that in 1871 there was an excess of more than 22,000 females. The population has since then increased by rather more than 30,000, and if the same relative proportions of the sexes have been preserved there should now be an excess of females amounting to 27,000; *i. e.*, the males would number 62,000, and the females 89,000. The numerical preponderance of the female sex may be accounted for by the concurrence of a variety of causes, including (1) the large number

of female domestic servants, probably not far short of ten per cent. of the whole population; (2) the numerous girls' schools; (3) the residence from choice of many unmarried females, widows, &c, and (4), the superior longevity of women.

The new houses brought into rating in the year were 386, a great falling off from the numbers in the three preceding years, viz., 504, 777, and 747 respectively. The total number of inhabited dwellings at the middle of the year was 19,330, in addition to which there were nearly 2,000 houses either empty or in course of erection. The average number of persons to a house at the census (whole parish) was 7·8: in the Brompton sub-district, however, 7 only. The area of the parish is 2,190 acres (viz., Town sub-district, 1,497 acres; Brompton, 693 acres), and if this space were wholly built over, the average density of the population would be 69 persons to an acre. As a matter of fact, however, many acres are as yet untouched by the builder, irrespective of open spaces like the cemeteries (Kensal Green and Brompton), and Holland Park, &c.

The subjoined table exhibits at a glance some of the evidences of the growth of Kensington within the present century:—

The Year.	Population.	Rateable value of Property.	The Year.
1801	8,556	£75 916	1823
1821	14,428	93,397	1833
1841	26,834	142,772	1843
1851	44,053	257,103	1853
1861	70,108	375 333	1860
1871	120,299	590,711	1865
1876	148,600	817,326	1876
1877	151,000	1,312,200 (April)	1878

MARRIAGES.

The marriages in 1877 were 1,411, viz.—

By the Church	-	-	-	-	-	1,169
At Roman Catholic places of worship	-	-	-	-	-	87
At Nonconformist	-	-	-	-	-	62
At the Superintendent-Registrar's office	-	-	-	-	-	93

Total 1,411

The marriage rate (persons married to 1,000 population) was 18·7. The rate in England and Wales in 1875, last year of publication, was 16·8. The marriages in Kensington in the preceding five years (1872 to 1876) were 1,122, 1,241, 1,311, 1,346, and 1,417.

BIRTHS and BIRTH-RATE.

The births of 4,648 children (males 2,389 and females 2,259) were registered in 1877:—3,771 in the Town sub-district, and 877 in Brompton. The birth-rate in the whole parish was 30·8 per 1,000=1 birth to 32·4 persons living; but the rate in the Town sub-district was 33·6 per 1,000 as against 22·6 per 1,000 in Brompton. The rate in the whole Metropolis was 36·1 per 1,000.

The decennial average birth rate in Kensington was 31·9 (*see* Table 2, Appendix). One hundred and five males were born to every 100 females, the males forming 51·5, and the females 48·5 per cent. of the total number of births. The low birth-rate in Kensington as a parish is due to the excess of female population above alluded to. The difference between the birth-rate in the whole Metropolis (36·1) and in the Brompton sub-district (22·6) is striking. The "Town" birth-rate does not present such a great contrast to the Metropolitan rate. The births exceeded the deaths by 2,090, a proportion greater than usual, and due to the low death-rate. The illegitimate births numbered 191, or 4·1 per cent. of total births. One hundred and seventy-one of the illegitimate births were registered in the Town sub-district, and 20 in Brompton. The former district contains the parish workhouse, where, out of 122 births, 86 were registered as illegitimate.

The subjoined table shows the quarterly number of births of each sex registered in the sub-district:—

KENSINGTON TOWN				BROMPTON.			Grand Total.
Sub-District.				Sub-District.			
	Males.	Females.	Total.	Males.	Females.	Total.	
1st Quarter	529	468	997	99	99	198	1,195
2nd ,,	426	461	887	114	94	208	1,095
3rd ,,	474	478	952	116	115	231	1,183
4th ,,	507	428	935	124	116	240	1,175
Total....	1,936	1,835	3,771	453	424	877	4,648

DEATHS AND DEATH-RATE.

The deaths registered in Kensington were 2,558, or 1 death to 59 of the population. The deaths were fewer by 338 than in 1876, without making any allowance for an increase of 3,000 in the population. The total, moreover, includes 124 deaths of non-parishioners in the Hospital at Brompton for Consumption and Diseases of the Chest. These deaths are retained in our statistics as a compensative allowance for the unknown number of deaths of parishioners which may have taken place in general hospitals and elsewhere outside the parish. To the total of 2,558, moreover, we must add 66, viz., the deaths from small-pox (60) and "fever" (6) in the hospitals of the Sick Asylum Board. The gross death-rate, therefore (reckoning the deaths at 2,624) was 17·3 per 1,000, as against 21·9 in the whole Metropolis, and 19·4, the decennial average in Kensington (*see* Table 2, Appendix). Of the deaths registered in the parish, 2,002 occurred in the Town sub district (including 227 at the Parish Infirmary and Workhouse, and 33 at St. Joseph's House), and 557 in Brompton (including 130 at the Consumption Hospital). Twelve hundred and ninety males died out of an estimated population of 62,000,

=one death to 48 male persons living; and only 1,268 females out of 89,000=1 death to 70 living. Compared with 1876 the reduction in the number of deaths of males and females respectively is 197 and 141. After making the necessary corrections, viz., by apportioning the proper number of the deaths at public institutions to each of the sub-districts in proportion to their population, it would appear that while the deaths actually registered in the whole parish were equivalent to a rate of 16·9 per 1,000, the rate in the Town sub-district was 17·6, and in Brompton only 13·4 per 1,000. The death-rate in the male sex was 21·5 per 1,000, the rate in the female sex being one-third lower, viz., 14·2 per 1,000. It is important to notice that the *relative* rates of mortality in the sexes were almost identical in 1871, the census year, viz., males 22·3 and females 15·7 per 1,000; and this fact—the then population being known—points to the probability of the accuracy of my estimate of the relative number of the sexes living at the middle of 1877. The sex death rate in the whole Metropolis was males, 24·2; females, 19·9. The deaths of children under one year of age were only 648 instead of 771 as in 1876, and the deaths under five years of age only 1,040, a reduction of 265 as compared with the previous year. The deaths under 1 year and under 5 years respectively, were equal to 25·3 and 40·8 per cent. on total deaths, and to 13·9 and 22·3 per cent. on the registered births. The deaths at 60 years of age and upwards were 596, or 23·8 per cent. on the total deaths. For the sake of comparison it may be mentioned that in the Metropolis generally the deaths under 1 and under 5 years respectively were equal to 24 and 41·3 per cent. on total deaths, and to 14·6 and 24·2 per cent. on the registered births; while the deaths at 60 and upwards were equal to 20·5 per cent. on all deaths.

The deaths of illegitimate children under five years were 98 (88 in the Town sub-district, and 10 in Brompton), equal to 3·7 per cent. on total deaths, and to 51·2 per cent. on the registered illegitimate births.

The subjoined table shows the quarterly number of deaths of each sex registered in the sub-districts:—

	KENSINGTON TOWN Sub-District.			BROMPTON Sub-district.			G and Total.
	Males.	Females.	Total.	Males.	Females.	Total.	
1st Quarter	269	269	538	69	73	142	680
2nd „	256	242	498	65	82	147	645
3rd „	201	201	410	73	42	115	625
4th „	280	275	555	74	79	153	708
Total ...	1,014	987	2,001	281	276	557	2,558

The subjoined table shows the number of deaths due to the chief great classes of diseases :—

	Kensington Town Sub-district.	Brompton.	Total.	Per 1,000 Persons living.	Per 1,000 Deaths
Zymotic diseases	315	60	375	2·9	168
Constitutional „	390	93	413	3·2	184
Local „	967	220	1187	7·8	454
Developmental „	278	62	340	2·2	129
Violent „	29	12	41	0·3	15

The detailed causes of death are set out in Table 3, Appendix, in 13 divisions according to age. The ages at death (excluding the deaths of non-parishioners at the Brompton Hospital), were as follows :—

There died under one year of age	...	648
Between one and two years	...	243
„ 2 and 5 „	...	149
„ 5 and 15 „	...	80
„ 15 „ 25 „	...	76
„ 25 „ 35 „	...	148
„ 35 „ 45 „	...	185
„ 45 „ 55 „	...	184
„ 55 „ 65 „	...	243
„ 65 „ 75 „	...	244
„ 75 „ 85 „	...	186
„ 85 „ 95 „	...	44
„ 95 „ upwards	...	4

The following table shows the death rate in 13 periods, corresponding to my monthly reports and the average temperature of the air :—

Date of Report.	Death-rate per 1,000 living.	Mean Temperature of the air.
Five weeks ended Feb. 3, 1877.	14·5	44°·1 Fahr.
Four „ March 3	17·8	43·0
„ „ „ 31	23·2	40·7
„ „ April 28	18·8	45·5
„ „ May 26	16·1	47·7
„ „ June 23	15·6	59·9
„ „ July 21	14·7	60·0
„ „ Aug. 18	15·5	62·6
„ „ Sept. 15	12·3	58·6
„ „ Oct. 13	15·0	49·0
„ „ Nov. 10	16·4	49·1
„ „ Dec. 8	19·8	43·4
Three „ „ 29	21·5	37·8

SPECIAL CAUSES OF DEATH.

ZYMOTIC DISEASES.—Exceptionally favourable as are all the vital statistics of 1877, the most satisfactory feature in them is the low rate of mortality from the diseases of the zymotic class—diseases considered to be of a more or less preventible character, and, therefore, of the highest interest to sanitarians. The deaths registered from the “seven principal” diseases (to adopt the customary phraseology, although nine diseases, including the three varieties of “fever” are embraced in this definition) were only 273 as against 498 in 1876—a reduction of 225. This number is the lowest on our record, regard being had to the increase in population. But in addition to the deaths from these diseases registered in Kensington a further number took place in the hospitals of the Metropolitan Asylum District Board, viz, 60 from small pox, and 6 from “fever.” Including these deaths the total is raised to 339, viz, from small pox, 84; measles, 54; scarlet fever, 31; diphtheria, 10; whooping cough, 34; “fever,” 21; including “typhus” 2—(*as registered*);* enteric fever, 14 (I have assumed that the 6 deaths in the hospitals were due to this disease), and simple continued fever, 5, and diarrhœa, 99. All these figures are below the average, small pox only excepted.

In the subjoined statement of the number of deaths in the sub-districts only those registered in Kensington are included, as I do not know how many of the deaths in the hospitals belong to the Town and how many to the Brompton sub-district.

	Town.	Brompton.	Total.
Small Pox - - -	21	3	24
Measles - - - -	49	5	54
Scarlet Fever - -	25	6	31
Diphtheria - - -	8	2	10
Whooping Cough -	28	6	34
“Typhus” Fever -	1	1	2
Enteric “ - - -	10	4	14
Simple Continued			
Fever - - - -	4	1	5
Diarrhœa - - - -	91	8	99
Total - - - - -	237	36	273

Thus 237 of the deaths were registered in the Town sub-district, and only 36 in Brompton. If we apportion the extra-parochial deaths in proportion to the population, the total deaths from these diseases would be approximately 279 in the “Town” sub-district, and 54 in Brompton, and the death-rate from the principal zymotic

**Vide* page 11 for a statement of my reasons for questioning the validity of the diagnosis of “Typhus.”

diseases in the Town would be 2·5 per 1000 living ; in Brompton 1·3 ; in the whole parish, 2·2. In all London 3·5 per 1000. The deaths were equal to 129 in every 1,000 deaths in Kensington, and to 160 per 1,000 in all London. In England and Wales they were 150 per 1,000 in 1875, the latest year of publication.

OTHER DISEASES OF THE ZYMOTIC CLASS.—*Croup* was the registered cause of 13 deaths ; 12 under 5 years of age ; 10 in the Town sub-district and 3 in Brompton.

Erysipelas was the cause of 11 deaths all in the Town sub-district : only two of the deaths occurred under 5 years of age.

Puerperal Fever (*Metria*) was the registered cause of 12 deaths, 8 in the Town sub-district and 4 in Brompton : 3 deaths between the age of 15 and 25, and 35 and 45 respectively, and 6 deaths between 25 and 35 years. Five deaths in the Town sub-district were ascribed to *Childbirth* (1 between 15 and 25, and 2 each in the next two decades). The distinction between the deaths in the two classes of cases is this, that while *Metria* is a specific and infectious disease, deaths from *Childbirth* simply, may be regarded mainly as accidental being generally due to hemorrhage (flooding). The total deaths registered as occasioned by, or occurring in, child-bed were equal to 0·3 per cent. on the registered births.

Rheumatism was the cause of 16 deaths (13 of them in the Town sub-district) all of them above 5 years of age. In most of the fatal cases of rheumatism the immediate cause of death is disease of the heart arising in the course of the malady. Many of the deaths from heart disease that occur in later life have their origin in rheumatic fever, though from a variety of circumstances the connection gets overlooked in the medical certificates of the cause of death.

ENTHETIC DISEASES.—The only fatal disease in this order was *Syphilis*, which occasioned 13 deaths, 11 in the Town sub-district, and 2 in Brompton—eight in the first year, and two in the second year of life.

DIETIC DISEASES.—Thirteen deaths were due to the various diseases included in this order, viz., *Privation* 1, *Purpura* and *Scurvy* 3, and *Alcoholism* 9. Eight of the deaths ascribed to the abuse of alcohol occurred in the Town sub-district. The registered cause of death in six cases was *delirium tremens*, and in three *intemperance*. It is hardly necessary perhaps to say that if the whole of the deaths due directly and indirectly to the immoderate use of intoxicating liquors could be ascertained, "alcoholism" would occupy a much more important position in Table 3.

PARASITIC DISEASES.—Five deaths in the first year of life, four of them in the Town sub-district, due to *Aphtha* (Thrush) are all that are included in this order.

CONSTITUTIONAL DISEASES.

The second great class in the Registrar General's tables, viz., Constitutional diseases, comprises the causes of 483 deaths; 395 in the Town sub-district, and 88 in Brompton—80 below the number registered in 1876. The class includes two orders, viz., (1) Diathetic diseases, 109 deaths; (2) tubercular or scrofulous diseases (including phthisis) 374 deaths

ORDER 1. DIATHETIC DISEASES.—The fatal diseases were *Gout* (4), *Dropsy* (12), *Cancer* (88), and *Mortification* (5). Only twenty-three of the deaths occurred in Brompton, including 20 due to cancer.

ORDER 2. TUBERCULAR.—374 deaths, viz., 309 in the Town sub-district, and 65 in Brompton. *Scrofula* and *Tuberculosis* occasioned 37 deaths, including three only in Brompton; *Tabes mesenterica* ("consumption of the bowels" as it is popularly called), 33 deaths, of which 5 were in Brompton; *Phthisis* 225 deaths, viz., 182 in the Town, and 43 in Brompton; *Hydrocephalus* (water on the brain), and *Tubercular meningitis* 79 deaths—14 in Brompton. The deaths from all these diseases were far more numerous in the Town sub-district than in Brompton, due regard being had to population.

In Table 3 (Appendix) the deaths of non-parishioners at the Brompton Hospital, 124 in number, are excluded: nearly all of them were due to phthisis (*vide* page 40). Many deaths of children ascribed to other causes, *e.g.* premature birth, atrophy and debility, convulsions, &c., are doubtless due to the scrofulous taint, whether inherited or induced by want of care, proper food, air, light, &c. Sixty of the deaths in this order occurred in the first year of life, 39 in the second, and 29 between two and five, making 128 under five years of age. The deaths, in decades, in later life, were as follows:—Between 5 and 15 years, 29; 15 and 25, 44; 25 and 35, 69; 35 and 45, 53; 45 and 55, 33; 55 and 65, 12; 65 and upwards, 6. It is satisfactory to note that the deaths from tubercular diseases as an order, were nearly one hundred fewer than in 1876. The quarterly numbers of deaths were 104, 83, 97, and 90 = 187 in the summer, and 187 in the winter quarters.

LOCAL DISEASES.

This great class accounts for nearly half the deaths registered in the parish. It is sub-divided into eight orders, according to the systems or organs affected, and which will be noticed separately. In this class as in all others, the deaths in Brompton (218), were relatively far fewer than in the Town sub-district (966), regard being paid to the estimated population. Of the total 1,184,

more than one third (actually 406), occurred under five years of age. The deaths in this class in 1876 were 1,216.

Order 1. NERVOUS SYSTEM.—The diseases of the nervous system caused 288 deaths (one more than in 1876, and two more than in 1875), viz., 238 in the Town sub-district, and 50 in Brompton; 104 of them took place under five years of age. The several diseases were fatal as follows:—*Cephalitis* (inflammation of the structure of the brain) 2, *Apoplexy* 68 (51 and 17 in the Town and Brompton sub-districts respectively), *Paralysis* 40 (eight only in Brompton), *Insanity and Chorea* (St. Vitus's Dance) 1 each, *Epilepsy* 8 (Brompton 2), "*Brain Disease*" 75 (only 9 in Brompton), and "*Convulsions*"—a symptom of many diseases rather than a disease—93 (Brompton 14.) Of the 93 deaths attributed to convulsions all but one occurred under five years of age, and 68 under one year.

Apoplexy and Paralysis—diseases of the later periods of life—were the causes of seven deaths under 35 years of age; seven between 35 and 45; and 20, 27, 26, and 19 in the next four decades; two deaths from apoplexy occurred between 85 and 95.

Order 2. ORGANS OF CIRCULATION.—Total deaths 140—none below five years of age, and 27 only in Brompton. The fatal diseases were *Pericarditis* 1, *Aneurism* 5, and "*Heart Disease*" 134, viz., 108 and 26 in the Town and Brompton sub-districts respectively. Ten of the deaths took place between 5 and 35 years. In five decades above 35 years the deaths were 19, 19, 29, 39, and 16 respectively. Two deaths from heart disease occurred between 85 and 95.

Order 3. RESPIRATORY ORGANS.—The deaths from the diseases of the organs of respiration were 538 (44 less than in 1876), 453 in the Town sub-district, 85 in Brompton, and 274 under five years of age. The quarterly numbers were 170, 150, 57, 161. The deaths due to the several diseases were *Laryngitis* and *Spasm of the Glottis*, 6 each, *Bronchitis* 290 (Town 245, Brompton 45), *Pleurisy* 9, *Pneumonia* (inflammation of the lungs) 177 (Town 148, Brompton 29), *Asthma* 6, and *Lung Disease*, &c., 43. Of the deaths from bronchitis and pneumonia respectively, 138 and 98 occurred under five years of age; 129 and 37 above 55. Between 5 and 55 the deaths from bronchitis and pneumonia were 23 and 42. These numbers correspond with the averages of former years; chest diseases being most fatal at the earlier and the latest stages of human life, their prevalence moreover, being most marked in the winter months. The deaths from all the diseases in this order, which were 170 and 164 in the first and fourth or winter quarters = 334, were only 150 and 57 = 207, in the second and third or summer quarters.

Order 4. DIGESTIVE ORGANS.—The diseases of the organs chiefly concerned in the process of digestion, were accountable

for 119 deaths, of which 24 occurred under five years of age. Eighty-three were registered in the Town sub-district, and 36 in Brompton. "*Liver disease*" was the cause of 40 deaths; *Jaundice* 13, and *Stomach disease* 18. *Enteritis* and *Peritonitis* (inflammation of the bowels, and of the external covering of the bowels) caused 10 and 7 deaths respectively. The other principal causes of death were *Ulceration of the intestines* 7, *Hernia* (rupture) 5, *Ileus* (obstruction or twisting of the bowel) 8, and *Intussusception* (obstruction by displacement of the bowel after the manner that the foot of a stocking is drawn within the leg-piece) 5. For other causes of death, *vide* Table 3 (Appendix.)

Order 5. URINARY ORGANS.—The deaths due to the diseases of the urinary organs were 69—55 in the Town sub-district, and 14 in Brompton. Thirty eight were due to *Bright's Disease* (Nephria), 8 of them in Brompton. *Cystitis* (inflammation of the bladder), and "*Kidney disease*" each caused 10 deaths. *Nephritis* (inflammation of the kidneys) 5, *Diabetes* 4, and *Calculus* (stone) 2 deaths.

Order 6. ORGANS OF GENERATION.—The deaths from the diseases of these organs were 12, viz., from *Ovarian Dropsy* 7, and from "*Uterus disease, &c.*" 5.

Order 7. ORGANS OF LOCOMOTION.—Five deaths were registered from the diseases of these organs, viz., from *Synovitis* (Arthritis—inflammation of joint) 3, and from "*Joint disease, &c.*" 2.

Order 8. INTEGUMENTARY SYSTEM.—Thirteen deaths (only one in Brompton) occurred from the diseases of the skin, viz., 12 from *Phlegmon* (abscess), four of them under five years of age, and one from *Ulcer*.

CLASS 4.—DEVELOPMENTAL DISEASES.

This class contains four orders, and embraces the diseases (1) of children, (2) of adults, (3) of old people, and (4) of nutrition. The total deaths from these diseases were 340 (238 under five years of age), of which 278 were registered in the Town sub-district, and 62 in Brompton.

Order 1. DISEASES OF CHILDREN.—*Premature Birth* was the chief "disease" and the assigned cause of 63 deaths, the majority of them within a few days or hours of birth. *Teething* comes next in order of fatality, 27 deaths, viz., 13 in the first and 14 in the second year of life. Five deaths were due to *Cyanosis* (congenital malformation of the heart). "*Other malformations*" caused 2 deaths.

Order 2. DISEASES OF ADULTS.—"*Childbirth*" was the cause of 5 deaths—in the Town sub-district.

Order 3. DISEASES OF OLD PEOPLE.—"*Old Age*," is the only

"disease" included in this order, and it was the registered cause of 88 deaths, viz., 65 in the Town sub-district, and 23 in Brompton. This cause of death was assigned in 3 cases between 55 and 65 years; in the next decennium there were 16 deaths: between 75 and 85, 47: between 85 and 95, 20: while upwards of 95 there were 2 deaths, one at 102 years.

Order 4. DISEASES OF NUTRITION.—"*Atrophy and Debility*," caused 149 deaths, of which only 20 were registered in Brompton. One hundred and twenty-seven of the deaths occurred in the first year. Between 45 and 85 years, 9 deaths were ascribed to these causes.

CLASS 5.—VIOLENT DEATHS.

Forty-one deaths (29 and 12 in the Town and Brompton respectively) were distributed over the orders comprised in this class, and which the Registrar-General numbers respectively (1) Accident or Negligence, (3) Homicide, (4) Suicide, and (5) Execution.

Order 1. ACCIDENT OR NEGLIGENCE.—31 deaths, viz., from *fractures and contusions*, 19 (of which 9 were in Brompton); *burns and scalds*, 2; *poison*, 1; *suffocation*, 9. Eight of the deaths from suffocation were those of children (mostly young infants) under 5 years of age, and 5 of the deaths from *fractures*, &c., occurred below this age.

Order 3. HOMICIDE (three deaths.)—*Murder* 2, and *Manslaughter*, 1, in the Town sub-district. (For particulars of these cases, *vide* section on Inquests, page 40.)

Order 4. SUICIDE.—Eight deaths (only 1 in Brompton), viz., by *wounds*, 2; *poison*, 4; *hanging* and "otherwise" 1 each.

Order 5. EXECUTION 0.

Causes not specified or ill-defined.—Fourteen deaths, (two in Brompton) have been included under this head, owing to the impossibility of including them under any other heading.

DEATHS IN PUBLIC INSTITUTIONS.

The only "large public institutions" in this parish at present are, (1) the Parish Infirmary and Workhouse, and (2) the Hospital for Consumption and Diseases of the Chest—the former being in the Town and the latter in the Brompton registration district. With respect to the smaller public, or *quasi-public* institutions—such as the Barracks and the various homes, series, &c., with one exception they do not furnish in the aggregate such a number of deaths as to call for special reference. The exception is St. Joseph's House, Portobello Road, N. Hill, an extensive charitable institution, containing some

inmates belonging to the Roman Catholic community, and in which 33 deaths occurred last year. The deaths in the large public institutions last year were 354, equal to 13·5 per cent. on total deaths—the equivalent proportion in all London being 19·2 per cent.

THE PARISH INFIRMARY AND WORKHOUSE.—I am again indebted to Dr. Whitmore, the Medical Superintendent of the Infirmary, for the statistics of the mortality at these institutions. The deaths registered last year were 223, viz., males 120, and females 103. The quarterly numbers were 44, 66, 54, and 59—103 in the winter and 120 in the summer—an inversion of the usual order of things, the winter months being usually more fatal to old people who compose the majority of the inmates of our workhouses.

The ages at death were as follows :—Under one year 25 ; between one year and sixty 97 ; sixty and upwards 101. Of the deaths in the latter group 38 occurred between 60 and 70 years ; fifty-one between 70 and 80, and 12 at ages above 80. The greatest age was attained by a female who died at 86, from disease of the brain. One inquest was held—on a man aged 58, who died suddenly from “ heart disease (P.M.).”

The causes of death may be grouped as follows :—

	Under 1 Yr.	Between 1 & 60.	60 & upwards.	Total.
Diseases of the Brain	2	13	28	43
Diseases of the Heart	—	8	3	11
Diseases of the Lungs	1	16	25	42
Diseases of other Viscera	—	4	8	12
Diarrhœa	3	3	6	12
Whooping Cough	2	3	—	5
Erysipelas	—	2	3	5
Dropsy	—	2	2	4
Gangrene	—	1	1	2
Cancer	—	3	2	5
Syphilis	1	2	—	3
Premature Birth	3	—	—	3
Want of Breast Milk	4	—	—	4
Atrophy, Debility, &c	4	3	1	8
Tubercular (Scrofulous)				
Diseases	3	2	—	5
Phthisis	—	30	3	33
Childbirth (Metritis)	—	1	—	1
Abscess	2	1	—	3
Other diseases (single cases)—		3	5	8
“ Old Age ”	—	—	14	14
	25	97	101	223

THE HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—The deaths in this institution were 130 (87 males and 43 females). Six only of the deceased were parishioners. This hospital, widely and favourably known, is less strictly than most others a merely Metropolitan Institution, drawing patients as it does from all parts of England. Of the 130 people who died in it last year, less than half had been residents in London—44 came from distant counties, and 27 from the Metropolitan Counties. The quarterly numbers of deaths were 35, 23, 31 and 41—76 deaths, that is, in the 1st and 4th, or winter quarters, and 54 in the 2nd and 3rd, or summer quarters. Phthisis (consumption) alone, was the registered cause of death in 106 cases, and with complications in other 13. Diseases of the heart, arteries, and lungs, not phthisical, were returned in eight cases, and there was one death each from tubercular meningitis, cancer, and diarrhœa. Death took place at ages as follows :—

Ten Years and Under	...	...	3
11 to 20 Years	...	...	21
20 to 40 "	...	...	89
40 to 60 "	...	...	17

ST. JOSEPH'S HOUSE.—The deaths in this institution were 33, males 14 and females 19—22 in the winter and 11 in the summer quarters. They occurred mostly at great ages ranging, with three exceptions under 60, between 60 and 96. The causes of death were diseases of the brain 8, of the lungs 9, of the heart 4, of the kidneys 5, cancer 3, rheumatism 1, old age, &c., 3. A girl of 10 years died of chorea (St. Vitus's Dance), at St. Elizabeth's Home—a conventual establishment and school opposite St. Joseph's House.

INQUESTS.

The causes of death in 142 cases (males 63, and female 79), were returned by the Coroner (inquests), and were ascertained in 103 cases by post-mortem examination. The apparent reason for holding the inquest was the suddenness of the death or the finding of the dead body in 115 cases, and "violence" in 27. Forty-seven of the deceased were under one year of age, 22 between one and five; from five to twenty 3, twenty to sixty 48, above sixty 22. Many of the inquests were held on children who survived birth but a very short period. Among the violent deaths 26 are set down to accident, 8 as suicidal, 2 as "wilful murder," 1 as "manslaughter."

The verdicts may be classified thus :—

Diseases of the brain (apoplexy, paralysis, convulsions, &c.)				33
Diseases of the heart (including rupture and aneurism)				30
„	of the Lungs	..	..	21
„	of other Viscera	..	..	5
„	Scrofulous	..	..	7
Croup	..	..	..	2
Spasm of the Glottis	..	..	..	4
Diarrhœa	..	..	..	1
Open Verdict, “Found dead”	..	..	..	2
Violent	{	Accident	..	26
		Suicide	..	8
		Murder	..	2
		Manslaughter	..	1
				—37
				142

VIOLENT DEATHS.—Of the 26 deaths due to accident, nine were cases of suffocation—eight infants and one adult; the cause of the accident in the case of the adult being an escape of gas. Three persons were run over by a railway train, wagon, &c.; two were killed by being thrown from a vehicle. In eight cases the fatal accident was caused by a "fall." Crushed by machinery, kicked by a horse, poisoned, scalded—to these causes four deaths were ascribed, one to each. The deaths by suicide—the act being generally attributed to unsoundness of mind—were 8, viz., by hanging, pistol shot, cut throat, run over by train, one each; poison 4, viz., by carbolic acid, prussic acid, laudanum, and belladonna; "wilful murder" (without further explanation) was the verdict in two instances of newly born children found dead in public places. The verdict of "manslaughter" (the death being due to small pox), simply expressed the view entertained by the jury of the conduct of the person in charge of the deceased child in not obtaining medical assistance. This case was referred to in my last report at p. 29. The annual rate of mortality per 1,000 living at all ages, from violence, (47 deaths being returned by the Registrar-General,) was 0·31 in Kensington, and 0·76 in all London.

With respect to the numerous deaths due to diseases, and which formed the subject of enquiry in the Coroner's Court, I still hold to the view expressed in former reports, viz., that although in a good many cases the death may have been truly described as "sudden," yet in a large number of so-called "sudden deaths," or when the deceased is described as having been "found dead" or "found dead in bed," death was the result of ill-

ness of such a nature, and of such duration, as to leave no excuse for the neglect to call in medical assistance. The Coroner's Court is a court of enquiry and record only, and the duty of the jury is simply to ascertain the cause of death. When Parliament in its wisdom shall have seen fit to create the office of a "public prosecutor," I venture to anticipate it will not be found possible to restrict prosecutions on the charge of "manslaughter" for the offence of not calling in medical aid for the sick to the "peculiar people;"—the offence being very common, and at present practically ignored, excepting in the case of the above-named sect, who justify their proceedings, to their own satisfaction at least, by conscientious, however erroneous, appeal to Holy Writ.

Of the 142 inquests, 110 were held in the Town sub-district and 32 in Brompton.

The percentage of deaths to total deaths thus registered from the certificate of the Coroner was 5·5 in Kensington (all London 6·4).

DEATHS "NOT CERTIFIED."

Twenty-seven deaths were returned as "not certified," *i. e.*, the deceased had been attended during their last illness by unregistered and, it must be assumed, unqualified practitioners of medicine. A "medical" certificate is usually given in these cases by the practitioner, and though the certificate, is "invalid" at law, the cause of death is entered in the Register in accordance with the terms of the certificate. At present the giving of such certificate is not an offence under the Medical Act, any more than the irregular practice of medicine by unqualified persons. The only offence this Act recognises is the assumption of any title by which the person falsely claims to be "registered" under the Act. Under the Apothecaries' Act, however, it is an offence to practise medicine without qualification, and the Act has been successfully put in force many times. The sanction of the Company is necessary I believe, and they are entitled to whatever penalties may be recovered: but so far as I know they do not enforce their own Act. This it has been left to private associations of members of the profession to do—an unsatisfactory, however praiseworthy mode of proceeding. It may perhaps be said that if people think fit to go to an unqualified man they are at liberty to do so—as in this land of liberty, people are allowed to do many other unwise things—but it may reasonably be doubted whether many of the poor patients of the pseudo-doctors are acquainted with their *un*-qualification and they are just the class who need protection. The actual number of "not certified" deaths was 27, but it is impossible to say how many more sick persons may have been attended to the last by unqualified men, by whom, with a view to certification, a qualified practitioner had been called in just before death. The

busiest of the unregistered practitioners, who practises under the shelter of a "bogus" diploma obtained *in absentia* from a transatlantic "University," which has no legal existence, "certified" the cause of 21 deaths last year. Another practitioner, who has been fined once under the Medical Act, certified in 3 cases; a chemist in 2, and an unqualified assistant of a medical man in 1. Of the 27 deaths 13 took place in the first year of life; 9 between 1 and 6; at 13 years 1; adults, 4. The alleged causes of death were, small pox, 1; scarlet fever, 2; diarrhœa, 2; enteric fever, 1; delirium tremens, 1; phthisis, 1; lung diseases, 7, and the wasting diseases of children (often the result of bad food and bad management), 12. There was "no medical attendant" of any sort in 8 cases, including 5 infants, varying in age from 1 hour to 8 months, and the causes of whose death are variously described as premature birth, debility and convulsions. The death of a woman certified from "small-pox" should not have been so returned as she had not been seen during life by the medical man who was called in by the coroner's officer. The coroner deemed it unnecessary to hold an inquest.

METEOROLOGY.

The mean temperature of the air at Greenwich in 1877 was 49°·7 Fahr., or 0·4 above the average of 37 years (1840-76). The averages of the four quarters were 42°·4, 52·6, 58·6 and 45·0. The highest reading by day (88°·2) occurred in the week ending August 4, and the lowest reading by night (23°·5) in the week ending March 3. The hottest week in the year was that which ended August 18 (mean temperature 63·7), and the coldest that which ended March 10 (mean temperature 36·9). The dryness of the atmosphere (*i.e.*, the difference between the dew-point temperature and air temperature) was 6°·6; average of 38 years (1840-1877) 5·6. The rain-fall was 26·8 inches, the average in 37 years being 24·2 inches. The low summer temperature and the excessive rain-fall during the three first months of the year probably contributed to bring about the low rate of mortality which characterised the year 1877.

VACCINATION.

Public interest in the subject of vaccination, intensified as it always is during the prevalence of an epidemic of small-pox, has been specially quickened in this parish of late by the abolition of one of the Stations for public vaccination, and by a sharp but brief outburst of small-pox in the Brompton district—some persons going so far almost as to connect the two events as cause and effect. Down to the close of 1877 there were three Stations in

Kensington. A "North" or Notting Hill Station at Cornwall Road, which served for the large district north of the Uxbridge Road; a "Central" Station near Kensington High Street Railway Station, for the district between the Uxbridge and Kensington Roads, and a part of the parish south of the latter road; and a "South" or Brompton Station in the Brompton Road, at the corner of Michael's Grove—and, therefore, close to the southern boundary of the parish—for the "Brompton" Poor Law District. The new "South" Station, for the combined Central and South Districts, is at the Chapel in Hornton Street, close to the old "Central" Station. The distance of the remotest parts of this combined district from the Station is about one and a half miles. The part of the district where small-pox has most prevailed—and of which Ifield Road may be taken as the centre—is about equi-distant from the old Brompton Station and the new South Station.

The vaccination arrangements throughout the country are controlled by the Local Government Board, who have adopted the plan of attaching to each Station a district with a population sufficient to ensure a regular weekly number of infants adequate to provide for "arm to arm" (or "*primary*") vaccination. On an average of three years the annual number of primary vaccinations at the Brompton Station was about 190, or less than four weekly, taking no account of fluctuations which might sometimes endanger the maintenance of the supply of *fresh* lymph.* This number being deemed insufficient, the Local Government Board advised the Guardians to close the Station. It is too early, of course, to judge what effect, if any, this step will have on the course of public vaccination in Brompton; but we are justified in assuming, and no one doubts, that the Vaccination Officer will take care that infants are vaccinated at the proper time, either at the station or elsewhere. So far, moreover, it would appear there has been no falling off in numbers, for whereas on an average of three years the quarterly number of infant vaccinations at the Brompton Station was 47 (the number in the first quarter of 1877, was 42), the number of Brompton cases at the new station in the first quarter of 1878 was 44.

I am not aware of any complaint having been made of the distance mothers have to travel to get their infants gratuitously vaccinated in the North district—though the extreme distances are greater than in the enlarged South district; and so far as I can ascertain, the arrangements at that station, where 1642 primary vaccinations were performed in 1877, are deemed satisfactory. In the old Central and South stations, now combined, the primary vaccinations in 1877 were 737, of which 191 were done at

* On 28 occasions during 1877 the weekly number of primary vaccinations fell below four: on eleven occasions there were three; on ten occasions two; and on seven occasions only one.

the Brompton Station. But it may be said that infant vaccination is compulsory, and re-vaccination, which is so necessary as a preventive measure against small-pox, is not, and therefore, though the penalty for neglect of the former—to say nothing of the diligence of the Vaccination officer—may compel compliance with the law, there is no such inducement in regard to re-vaccination, which, therefore, may be neglected if great facilities for its performance are not provided. This may be so, and all will agree that every reasonable facility should be offered to the public.

Every adult should be re-vaccinated—the sooner it is done after 15 years of age, or even earlier when small-pox prevails, the better ; and it is desirable that a law should be passed to make such re-vaccination compulsory. Until the people generally, whether from a sense of self-protection, or in obedience to law, submit to the operation, small-pox must continue to smoulder in our midst—and it will, from time to time, break out with epidemic violence. But if people are so indifferent about re-vaccination that they will not take the trouble to go a mile or two once in a life-time, to have the operation gratuitously performed, will they walk half-a-mile, a hundred yards, or any other distance, for the purpose? That is the question : and it may be fairly doubted whether those persons who during the last two years of the epidemic have been either unwilling to submit to re-vaccination, or too indifferent to find their way to the old station, would be induced to make the effort to get re-vaccinated, however the facilities for their so doing might be increased. It remains, of course, to be seen what proportion the re-vaccinations of Brompton adults at the new station will bear to the re-vaccinations at the old station. In one respect the case is not at all altered by the new arrangements, for the 13th section of the Vaccination Act (1867) Amendment Act, authorises a District Medical Officer to vaccinate any unvaccinated person, and to re-vaccinate all persons of suitable age, and not previously re-vaccinated, in any house where small-pox exists, and to be paid in respect of such services in the same manner as a public vaccinator. This power has been duly exercised, and I am informed that a large proportion of the re-vaccinations in the Brompton district have been done ‘at home,’ and not at the station, under this provision. The new arrangements effected by the abolition of the Brompton station, must, however, be considered to be on their trial, and as any views entertained in respect to them now, may have to be modified hereafter, I, for one, do not intend to commit myself at present to a final opinion on the subject. Recognising, however, the apparent reasonableness of the grounds on which the new arrangements are based—considering, moreover, the topography of the district, the question of distances, &c., and the fact that free vaccination is done weekly to a large extent at St. George’s

Hospital, which is not far from the Eastern boundary of Kensington (Sloane Street), and that no grievance is alleged in the North district, where the conditions are at the least as unfavourable as in Brompton, and that in no part of London is infant vaccination more universally practised than in Kensington, I have felt it my duty to point out that there is something to be said in favour of the plans adopted by the Vaccination Authorities, plans which must in due time be judged by their success or failure.

In former annual reports it has been one of my most pleasant duties to bear testimony to the successful working of the Vaccination Laws in this parish, due to the loyalty of the Guardians, and to the energy with which the Vaccination Officer, Mr. C. Shattock, fulfils the onerous duties of his post. The testimony of the Local Government Board, in respect to this officer's last Report, proves that the high standard of former years is still maintained.

In my last Report I referred, in a foot-note (at page 31), to the results of a house to house visitation, and an inspection of schools, which the Guardians had instituted with a view to the discovery of unvaccinated children, and I now give the Report of the Vaccination Officer thereon :—

“ Two hundred and seventy streets have been canvassed, numbering 7,996 inhabited houses, populated by upwards of 21,000 separate families, in which 290 unvaccinated children were discovered ; and from an inspection of nine schools, containing 2,089 children, 60 were found unprotected by vaccination, making a total of 350 cases.

“ Notices were at once served on the parents or persons having custody of such children, as to the requirements of the law. In many instances attempts were made to evade the Act by removal, but on being followed and again found they complied.

“ Of the 350 cases above referred to, 303 have since been vaccinated, and certificates sent in ; 13 are now undergoing the operation ; 27 are certified as unfit from ill health, and the vaccination consequently has been postponed, thus leaving four only of the 350 cases unaccounted for, and in which I find legal proceedings necessary.

“ The greater number of these children were born in other parishes, and by migration into this district the officers of the district in which they were born were evaded. Some were not registered, and others falsely registered—it was therefore impossible to reach them, but by the means adopted by your Board.

“ The 27 certified as unfit from ill-health will be kept in view, and the law enforced as soon as their state of health permits.

“ It is to be regretted that the School Board for London should have refused your application to inspect the children in their schools, inasmuch as that would have been a certain means of reaching those whose vaccination had been neglected. (*October 10th, 1877.*)”

The subjoined Report refers to Vaccination in 1876, and must be considered eminently satisfactory :—

“ During the year, 4,519 births were registered ; in 409 instances the children died ere they attained the age of three months, or were in a fit state of health to undergo the operation ; 24 are certified as insuscep-

tible of vaccination ; five had small-pox ; 22 are still under medical certificates of unfitness from ill-health ; 21 have removed to other parishes, their addresses ascertained, and forwarded to the Vaccination Officers of such respective districts, reducing the number to be accounted for to 4,038, of which 3,889 have been successfully vaccinated, and certificates duly returned ; the remaining 149 have left, or were unknown at the addresses given upon registration, being a loss of about 3 per cent. on the total number of births registered. (Vide Table X., Appendix.)

“ The average of the Metropolis has hitherto been about 8 per cent., thus showing Kensington vaccination to be 5 per cent. better than that of the Metropolitan district generally. (*February 6th, 1878.*) ”

In concluding my remarks on this important subject, I may observe that vaccination, like all other systems, must be judged by its fruits, and that those fruits in this parish have been just such as everybody acquainted with the subject might have anticipated. There has not been, to my knowledge, one death from small-pox, of a properly vaccinated infant : and in the Brompton sub-district where for the last few months the disease has chiefly prevailed, the number of children attacked has been small : very young children having generally escaped. The children who took the disease were for the most part of an age at which the effects of primary vaccination begin to wear out, an age approaching that at which re-vaccination begins to be necessary, and to prove successful. All which goes to show that no suspicion can be reasonably entertained respecting the state of infant vaccination in Kensington, while as regards re-vaccination—(the *Guardians* having on two occasions opened public stations in the evening,) adults have had abundant opportunities of being re-vaccinated without cost or undue trouble. Public notice of these arrangements and suitable advice, moreover, having been given both by your Vestry and by the *Guardians*, I feel that the Sanitary and the Vaccination Authorities will be absolved whatever may be the consequences, to individuals or to the community, of the neglect of re-vaccination.

THE SANITARY STAFF.

Towards the close of 1877 your Vestry referred “ the duties and salaries of the subordinate officers in the department of the Medical Officer of Health,” to the Special Purposes Committee for consideration and report. Shortly afterwards, however, Inspector Langman having fallen ill in the interval, it was thought well to defer the enquiry pending the result of that officer’s illness. And when in March, 1878, Mr. Langman tendered his resignation, which was speedily followed by that of Inspector Wood, it became apparent that the scope of the reference must needs be enlarged. The Committee ultimately presented a report of considerable importance, the adoption of which by your Vestry having prac-

tically re-constituted the Department, a brief notice of it may not be unacceptable at the present time. On the passing of the Metropolis Local Management Act, which called your Vestry into existence in 1855, two inspectors, Mr. Giles Lovett and Mr. G. H. Wood, were appointed, Inspector Lovett taking cognizance of indoor nuisances and sanitary defects in all parts of the parish (the area of it being 2,190 acres, and its configuration—great length and little breadth—inconvenient) while Inspector Wood was chiefly if not wholly concerned with street obstructions and such like matters. At this time the estimated population of Kensington was 55,000, and the number of inhabited dwellings 7000.

In 1866, the population having increased to 96,000, and the number of occupied dwellings to 12,000, your Vestry resolved to appoint an additional Inspector, and to divide the parish into three districts—a “north” district including all that part of the parish north of the centre of the Uxbridge Road, a “south” district embracing all that part of the parish south of the centre of Kensington Road, and a “central” district comprising the remainder of the parish, viz., that portion of it between the north and the south districts respectively. It was also settled that each officer should perform all the duties appertaining to the office of Sanitary Inspector, and Inspector of Nuisances, in his own district.

The new arrangement, Mr. Langman having been appointed to the North, Mr. Wood to the Central, and Mr. Lovett to the South District, worked satisfactorily, and was reported on favourably by my predecessor after a year's experience of it. Not long afterwards, however, Inspector Lovett having resigned his appointment on account of ill-health, the Vestry resolved to combine the central and southern districts under Inspector Wood, thus reducing the staff to the original number. I am not prepared to say that the division of the parish thus effected was an unequal one—though the constant and almost portentous growth of the north district, tended more and more to make it so—but it soon became apparent that the work of either district was hopelessly beyond the capacity of any one man.

In 1871 I had the honour to be appointed the Medical Officer of Health, and soon afterwards the Vestry, at my request, resolved to relieve the Inspectors of some of their work, by appointing a Sanitary Clerk, who should be an Inspector also, but without district, and competent to undertake any special work at the discretion of the Medical Officer. Mr. Richard C. Rudman was the successful candidate for the new appointment. The next step towards placing the sanitary staff on a proper footing arose out of the frequency with which complaints were made by parishioners of the non-removal of dust and other refuse from their premises, and the necessary attention to which occupied much of the Inspectors' time to the great hindrance of them in

the discharge of their other duties. These complaints indeed became so numerous at last that it was impossible for the sanitary inspectors to make inspections, and all that could be done was to issue orders to the several contractors to remove the dust. The repetition of complaints by the same parties, on consecutive days or at short intervals, proving delay in executing the orders, I ventured, in March, 1875, to advise the Vestry to appoint a "Dust Inspector," which was done, in the person of Mr. Thomas Gaylard. To the duties of this office, those of Inspector under the "Sale of Food and Drugs Act" were subsequently added; this work being done, however, after office hours. Inspector Gaylard also undertook a certain amount of general sanitary work, as time and circumstances permitted. Excellent results followed the appointment of this officer—a part of whose special occupation, however, as an overlooker of the contractors' work, came to an end in 1877, when the contract system was discontinued.

Lastly, my attention having often been directed to the unsatisfactory way in which the disinfection of rooms, after the occurrence of infectious diseases, was conducted—the process often being ineffectual, from the want of care or the ignorance of the poor occupiers, I recommended the appointment of a special officer to do the work; and Mr. James W. Wightman was appointed in April, 1877, his time being filled up in attending to minor sanitary matters, and in learning the duties of an Inspector. On Mr. Langman becoming disqualified by illness, the duties of his office were at first undertaken by Mr. Wightman, and subsequently were divided between that officer and Mr. Middleweek, who was temporarily appointed in January, 1878, with such assistance as Inspector Gaylard's attention to his other duties permitted him to give.

I have now brought the history of the Sanitary Department down to the close of 1877, at which time the population of the parish had increased to about 152,000; the number of occupied dwellings (including stables and mews) being nearly 20,000, and the length of the streets subject to the control of your Vestry 65 to 70 miles. What has been stated will have given some idea of the importance of the question with which the Special Purposes Committee had to grapple. Their report on it was as follows:—

"With reference to 'the duties and salaries of the subordinate officers in the department of the Medical Officer of Health,' and as to filling up the vacancies caused by the resignation of Messrs. Langman and Wood, your Committee beg to report, That, owing to the great development of the Parish of late years—the large population, the number of inhabited dwellings, and the extensive mileage of the streets—the Parish should be divided for sanitary purposes into four districts, two north and two south of the Uxbridge-road, and to be named respectively North West, North East, Central, and South.

"To each of the above districts an Inspector should be attached, but not necessarily the same Inspector in permanence, as your Vestry may think it desirable, from time to time to change the districts, so as to accustom the officers to work in any portion of the Parish, in conformity with the principle laid down in the Report of the Special Committee appointed to consider "as to the Duties of the Inspectors," dated March 28th, 1866.

"OFFICE HOURS.—The hours of duty of officers are from 9 a.m. to 5 p.m.; but it appearing that much loss of time has been unavoidably occasioned heretofore by the Inspectors leaving their work and going home to dine, it is recommended that in consideration of their giving up the dinner hour in the middle of the day, they should go off duty at half-past four o'clock—an arrangement which your Committee are informed would be agreeable to the existing officers.

"DUTIES, &c., OF THE SEVERAL INSPECTORS.—Your Committee, having given careful consideration to this subject, beg to recommend—first, with reference to Inspector Richard C. Rudman, that he continue to perform the duties of "Sanitary Clerk and Special Inspector without district," as heretofore.

"The Inspectors generally should attend at the office duly and punctually at nine o'clock, and, after signing the attendance-book, proceed to enter in a journal, to be provided for the purpose, a brief statement of the work done on the previous day—irrespective of any more detailed entries they may have found it necessary or desirable to make in a pocket diary, which it is recommended they should keep and make up at home at the close of each day's work.

"The Inspectors should report to the Clerk of the Vestry any obstructions, &c., that may have come under their observation, and they should furnish the Sanitary Clerk with the necessary particulars of all notices requiring to be issued for the amendment of premises, or for the abatement of nuisances, &c

"The serving of such notices will be one of the duties of Inspectors. Your Committee, however, would point out that it is of little use serving notices unless steps are taken to ascertain that the requirements of the Vestry are duly and punctually complied with; they would therefore recommend that it be the duty of the several Inspectors to ascertain in each case that the required work has been executed within the specified time; to report, without delay, any default; and to take such measures as your Vestry may have authorised to secure compliance with the law.

"The necessity of serving the more formal notice under the order of your Vestry might be frequently obviated and considerable delay avoided, by the use of a form of preliminary notice, which each Inspector should carry in his pocket, fill up, and serve imme-

diately on the discovery of a nuisance—a step which, in a great number of cases, would effect all that is necessary.

“The Inspectors should leave the office punctually at 10 o'clock, and proceed without delay to their several districts: and when they can more conveniently reach the scene of the day's duty by railway, your Committee recommend that they be authorised to do so by taking a third-class ticket, the cost of which will be trifling in comparison with the value of the time saved. The chief duty of an inspector is the systematic inspection of the houses occupied by the poorer classes, and houses let out in tenements. And in connection with this all-important duty your Committee would submit that the time has arrived when the 35th section of the Sanitary Act, 1866, should be put into operation—the section enabling the President of the Local Government Board, on the application of the Nuisance Authority, to empower the said authority to make regulations as to lodging-houses, viz.:—

1. For fixing the number of persons who may occupy a house or part of a house which is let in lodgings, or occupied by members of more than one family.
2. For the registration of houses thus let or occupied in lodgings.
3. For the inspection of such houses, and the keeping the same in a cleanly and wholesome state.
4. For enforcing therein the provision of privy accommodation, and other appliances and means of cleanliness in proportion to the number of lodgings and occupiers, and the cleansing and ventilation of the common passages and staircases.
5. For the cleansing and lime-whiting at stated times of such premises.

“The Act enables your Vestry as the ‘Nuisance Authority’ to provide for the enforcement of the above regulations by penalties for default: and duly carried out as it might and should be with the proposed increase in the sanitary staff, it would constitute an important fresh point of departure in the progressive efforts of your Vestry to improve the health of the people.

“The details of the duties of the Inspectors under the several Acts of Parliament relating to the prevention of the spread of infectious diseases and to Slaughter Houses, Cowsheds, Bakehouses, &c., will have to be settled by the Medical Officer of Health, but your Committee desire to record their opinion and to recommend that each slaughter-house and cowshed should be visited once in every month at the least, and each bakehouse once in two months. Among other principal duties of the office may be cited the following, viz., regular attention to the condition of mews and generally to the state of the streets in respect to cleanliness,

obstructions, &c., and the systematic inspection of marine stores and other offensive trades, public and semi-public urinals, &c.

“And here your Committee would observe that subject to the sanction of the Chief Commissioner, which should if possible be obtained, the Police might render important service to the public and to your Vestry, by co-operating with the Inspectors in enforcing the provisions of the law in respect of street obstructions and cognate matters.

With reference to matters requiring the attendance of the Inspectors at the Police Court, and it appearing that such attendance has often occasioned considerable loss of time owing to the pressure of business at the Court, your committee beg to recommend that it be an instruction to the Clerk of the Vestry to endeavour to make an arrangement with the magistrates so that Vestry cases (emergencies only excepted) may be heard at a fixed hour on one day in the week.

“But as many charges, *e.g.*, for obstructions of the public footways, &c., might be equally well dealt with by the Justices of the Peace sitting at the Vestry Hall, and much time be thereby saved, your Committee recommend that such cases be taken before the Justices when practicable.

“Moreover, the Justices being the Licensing Authority for Slaughter Houses and Cowsheds, it appears to your Committee that subject to the same reservation on the point of convenience, summonses for breaches of the slaughter-houses’ bye-laws, and for nuisances arising in connection with cowsheds, &c., should also be taken before the Justices. Your Committee, however, in making this recommendation, feel that considerable latitude should be allowed to the Clerk’s discretion, and they make it subject to this reservation.

Your Committee have already referred to the necessity of system in the duty of house inspection, and in order that the Inspectors may be withdrawn as little as possible from this important work, and it appearing that letters are frequently addressed to the Inspectors requiring their attendance in various parts of the parish for purposes which on inspection prove to be beyond their powers, and thus much valuable time has been wasted, your Committee recommend that all letters addressed to a Sanitary Inspector should be deemed to be addressed, and should be submitted to the Medical Officer of Health as head of the Sanitary Department, and his instructions taken with reference thereto.

“Your Committee having been informed that it has been customary for the Inspectors to be in attendance at all meetings of your Vestry and of the Works, Sanitary, and General Purposes Committee, and that their presence is very seldom required, recommend that the attendance of the Inspectors (Special Inspector Rudman only excepted), at such meetings be dispensed with, un-

less otherwise specially directed by your Vestry, the said Committee, the Clerk, or the Medical Officer of Health.

"With respect to the appointment of officers to complete the staff of the Sanitary Department, your Committee having received an application from Inspector Gaylard soliciting a transfer from his present duties as Dust Inspector to those of Sanitary Inspector (for which he appears to be well fitted) recommend that he be appointed Sanitary Inspector and Inspector of Nuisances, and that he continue to discharge the duties of Inspector under the Sale of Food and Drugs Act as heretofore.

"The Medical Officer of Health having reported that Acting Inspectors James W. Wightman and William Middleweek have discharged the duties entrusted to them in a satisfactory manner, your Committee recommend that they be appointed Sanitary Inspectors and Inspectors of Nuisances, and that Mr. Wightman do continue, with the assistance of one of the Vestry's labourers, to act as disinfecter for the whole parish.

"For the remaining appointment your Committee recommend that it be referred to the Chairman of your Committee, assisted by the Medical Officer and the Clerk, to select a suitable person for election by your Vestry as Inspector.* All the appointments to be made and held subject to the pleasure of your Vestry.

"In conclusion, your Committee have only further to report that, although they have given great attention to the subject referred to them, they have not attempted to deal with it exhaustively, especially in respect of the details of the duties of the inspectors, which they think should be left very much to the Medical Officer to settle, subject to the provisions of the several Acts of Parliament relating thereto, and to the sanction of your Vestry. They believe, however, that the general plan and arrangements shadowed out in the present report, if thoroughly carried into effect, will prove serviceable, and place the Sanitary Department on a footing somewhat commensurate with the importance of the interests committed to its charge."

SANITARY WORK.

The principal items of sanitary work done by the Inspectors are set out in Table 6 (Appendix), and the monthly quantities in Table 6a. It may be stated, however, that a large amount of good work does not admit of a detailed statement, particularly in respect to the cleansing of houses, which is oftentimes done at the request of the Inspectors without formal notice on the part of your Vestry. By acquiring influence with the owners of small property and houses let out in tenements, it is possible for a discreet Inspector to do a good deal for the benefit of the occupants without having

* This was done, and Mr. Thomas Abbott was subsequently appointed,

recourse to compulsory powers: and the diligence or success of an officer is by no means to be gauged by the number of notices or summonses served in his district. In another section (Sanitary Staff, page 47), I have referred to the great alteration made in the arrangements for carrying out the work of inspection, and which are of too recent date to call for critical remark.

I take occasion, however, to renew the expression of my regret at the loss of Inspector Langman's services, a regret which is increased by the fact that his retirement was due to complete failure of health. Inspector Wood, after 23 years service, well deserved his retirement.

LICENSED SLAUGHTER-HOUSES.

The number of licensed slaughter-houses has undergone no change since last year. There are 21 north and 10 south of the Uxbridge Road, total 31 (*vide* Table 11, Appendix, for names of licensees, localities, &c.) The several premises have been inspected as usual; and I presume the bye laws relating to them have been duly observed by the licensees, no complaint having been reported by the sanitary inspectors, and no proceedings having been taken for offences under the bye-laws by the officers of the "local authority" (Metropolitan Board of Works).

LICENSED COWSHEDS.

The licensed cowsheds are now 30 in number, viz., 19 north of the Uxbridge Road, and 11 south thereof, (*vide* Table XII., Appendix for names of Licensees, Localities, &c.) In the case of sheds newly licensed within the last two or three years, the requirements of your Vestry have been carried into effect by the decisions of the Justices, who have limited the number of cows allowed to be kept so as to ensure a space of 800 cubic feet for each animal. This requirement is so reasonable that it ought now to be insisted on in all cowsheds.*

In former reports I have enlarged on the reasons for placing cowsheds and dairies under regulation by bye-laws, I propose now, therefore, only to show what progress has been made in the matter, which is one of great sanitary interest. It will be remembered that the "Public Health (Metropolis) Bill, 1877," proposed *inter alia* to confer powers on the Metropolitan Board of Works to enable them to frame bye-laws for regulating the construction of cowsheds, and the conduct of the business of a cow-keeper. The Bill, however, was withdrawn subsequent to the second reading. The Metropolitan Board of Works, moreover, were not satisfied with the clause referred to (69th) because it did not give

* The Vestry have since resolved to adopt the 800 feet standard for all cowsheds (May, 1878).

them the power to enforce the regulations which it would have authorised them to make. The Board, therefore, with a view to independent action referred to the Sanitary Committee the question of the desirability of bringing the business of a cowkeeper in the Metropolis under the operation of uniform regulations, and the Committee ultimately reported in favour of so doing, "chiefly with a view to improving the present unwholesome condition of the cow-houses . . . and consequently reducing epidemic" (or rather epizootic) "diseases in cows."

The Committee regarded the alleged unwholesome condition of the sheds as the "result of the vestries having no statutory power of making and enforcing regulations, though the cowsheds are to some extent under their supervision," and they stated their conviction that the only way to remedy the "generally recognised evils" referred to, is to "bring the cow-houses under the operation of uniform regulations uniformly enforced;" and "the most expeditious and effective way of dealing with the question is to declare the business to be an offensive business under section 3 of the Slaughter Houses (Metropolis) Act, 1874." The Board acting on this advice did in October, 1877, resolve and order "That the business of a cowkeeper be declared to be an 'offensive business' " under the said section.

The 'order' of the Board in such case, however, has no validity unless confirmed by the Local Government Board; and this confirmation has been withheld, the Metropolitan Board having been informed that the powers they seek can be conferred only by a special Act for which up to the present time they have not shown any disposition to apply.

There appears no probability of the Government re-introducing, this year, at least, the "Public Health (Metropolis) Bill," but they have taken a step which if carried into effect may prove productive of much good, viz. by proposing to confer power on the Privy Council to enable them to authorise "local authorities" to frame bye-laws for the regulation both of cowsheds and dairies, and the conduct of the business carried on thereat.

Section 28* of the "Contagious Diseases (Animals) Bill," introduced in the House of Lords by the Duke of Richmond, runs thus :—

"DAIRIES AND COWSHEDS.—The Privy Council *may* from time to time make such orders as they think fit, subject and according to the provisions of this Act, for the following purposes or any of them :—

1. For prescribing and regulating the ventilation, drainage, and water supply of dairies and cowsheds in the occupation of cowkeepers or dairymen.
2. For securing the cleanliness of milk shops, and of milking vessels used for containing milk for sale.

*In the "Act" it is the 33rd section; but as I have been unable to procure the Act I do not know in what precise terms the section has been passed,

3. For prescribing precautions to be taken for protecting milk against infection or contamination.
4. For authorising a local authority* to make regulations for the purposes aforesaid, or any of them, subject to such conditions, if any, as the Privy Council prescribes."

Should the section pass into law, and be duly carried into effect by the Privy Council, we may venture to hope, ere long, to see some radical and necessary improvements effected, not only in the construction of cowsheds and the storage for milk, but also in the conduct of the business of those who deal in this most important article of diet.

But, as I have pointed out in former reports, it will not be a sufficient protection of the sanitary interests of the metropolis to regulate by bye-laws the structure of its own cowsheds and dairies, and the conduct of the business of its own dairymen, &c., for by far the largest part of the milk supply is derived from the provinces, and residents in the metropolis may at any time suffer from sanitary defects in connection with country cowsheds, or dairies, as well as from disease either in the cows, or in the families of the people who send milk to town. An instance came to my knowledge last year, which illustrates very well one of the dangers glanced at, and proves the necessity of placing under supervisory regulations all dairies and cowsheds from which milk is supplied for general consumption. Several cases of illness (diarrhœa, vomiting, and febrile symptoms) occurred in a number of families supplied with milk from a particular dairy. An analysis of the milk showed that it had evidently been watered to the extent of about ten per cent. On the farm being visited from which the supply of milk was drawn, it was found that one of the cows had been and was suffering from some form of diarrhœa, and that her milk was being sent up to the London market; the milk, however, yielded a large percentage of solids, and did not, when drank, produce any sickness. The water used to cool the milk was very foul and taken from a pump supplied by drainage from the farm-yard. The water when mixed with milk and drank (by the proprietor of the London dairy) produced violent sickness in a very short time. The average milk of the farm, when analysed, showed a higher percentage of solids than the milk as received in London, showing pretty clearly—physiologically and chemically—that it had been reduced with the fouled product of the pump. It need hardly be added that if there had chanced to be any typhoid fever at the farm very serious results might have

* The Metropolitan Board of Works is the "local authority" for the whole of the metropolis, excepting the City of London. There is an advantage in this, viz., that the "regulations," when made, will be of a uniform character. This bill, it may be mentioned, passed into law at the end of the Session, but it does not come into operation till the 30th September.

occurred. The "experiment" on the London consumers was tried twice, for as soon as the first batch of cases occurred the milk supply from the farm was discontinued; but a few days afterwards the proprietor of the dairy was induced to take the milk again; and the same results immediately ensued. Then followed the visitation of the farm and the discovery of the source of, impure water. The cause of the mischief having thus been discovered and removed, the effect ceased at once and for all.*

BAKE-HOUSES.

The Bakehouses, 121 in number, viz.: 69 in the North, and 52 in the South Sanitary district, have been regularly inspected, and the provisions of the Act relating to them carried out as fully as possible. The special duties that have hitherto devolved on your Vestry's Officers will, on 1st January next, be transferred to Government Officers, by virtue of a clause in the Factory and Workshop Act (1878), which places the Bakehouses under the supervision of the Inspectors appointed under the "Factory Acts."

DUST REMOVAL.

The removal of dust and ashes is now, and has been during the parochial year, 1877-8, wholly carried out by your Vestry. This work was commenced somewhat suddenly, and in a state of unpreparedness, on your Vestry's determination to abolish the contract system, and it is not surprising that many complaints of inattention were made during the early months of the year. On the whole, however, there has been a decided improvement as compared with previous years under the contract system, as the figures in Table 6A (Appendix) will shew. In course of time the difficulties which, even now to some extent exist, and arise from the comparative novelty of the work, will be surmounted, and as the methodical system of calling at each house in the parish once, and once only, in every week is brought fully into play, it may be anticipated that the new order of things will prove increasingly satisfactory to the ratepayers. There is reason to believe that not only has no additional expense been incurred by the change of system, but rather the reverse, taking into consideration the fact that the sums demanded and paid for the work under contract rose yearly at a portentous rate. A large sum of money, indeed, has been received from the sale of dust to brick-makers: and this source of revenue might no doubt be considerably increased were it in the power of your Vestry to sort the dust and sell in the best market the several constituents of the dust bins.

* I am indebted to Mr. Cleaver, the Public Analyst, who visited the farm and who did the analytical work, for some of the above particulars.

REMOVAL (OR *NON-REMOVAL*) OF STABLE MANURE.

In my annual reports for 1875 and 1876, I referred to the nuisances arising from the neglect of the owners of horses to remove with sufficient frequency and regularity the contents of the dung pits, especially in mews, in conformity with the regulations of your Vestry. These regulations require the pits to be cleansed three times a week, viz., on alternate days; but as a matter of fact the refuse in question is removed far less frequently and at irregular intervals, and I pointed out the desirability of your Vestry undertaking the removal of the manure, &c., as the law enables you to do with the sanction of the owner, which sanction I have reason to believe it would not be difficult to obtain if it were understood that the penalties for non-compliance with the regulations would be enforced. I also referred to the increased value the addition of the manure would give to other refuse matter as slop, dust, &c., when your Vestry, having dispensed with the services of contractors, should be seeking a market for street and other refuse. That time has now arrived, and as it is most desirable on sanitary grounds that the regulations should be carried out strictly, I trust steps will be taken to give effect to my suggestion. That stable refuse has an appreciable value is obvious, for your Vestry have accepted a tender for the purchase of the stuff from the wharves and depots for one year, for about the sum of £70.. There are nearly one hundred and fifty mews in this parish, and the quantity of stable refuse must be very great in the aggregate, though the produce of a single stable can be of little value to the proprietor, or rather (as a rule) to his coachman. I cannot but believe therefore that it would pay in a commercial point of view to collect the stuff as proposed, and at the least I would urge a fair trial of the plan under the direction and supervision of the Wharves and Plant Committee.

HOUSE DRAINAGE.

The subject of house drainage has received considerable attention, it having been prominently brought under the notice of your Vestry in the form of a general statement, not wholly without foundation, that the powers of the Metropolis Local Management Acts relating thereto have not been fully exercised. The Report of the Works, Sanitary, and General Purposes Committee, to which it was referred to consider the "Principles of the Acts in relation to house drainage, and as to the best means of giving effect thereto," shows that your Vestry have the power to require that all house-drains and connected works shall be properly laid and provided, and that all houses built, or to be built, shall be provided with sufficient drainage, to be properly constructed of suitable materials and under the supervision of your Vestry.

It is matter for regret that these powers have not been fully exercised during the twenty-three years the Act has been in operation—and in respect of the many thousand houses that have been constructed in the parish within that period.

The 82nd section of the Act, however, will probably enable us to correct some of the faults of construction in existing drains, as it places drains, water-closets and connected works under the inspection of the Vestry and their officers, power being given, after twenty-four hours' notice, to enter premises and open the ground for the purpose of such inspection. By the 85th section, when any drain, &c., appears to be in bad order, the owner or occupier may be called upon to do the necessary works, and in case of default the Vestry may themselves do the work, and charge the owner or occupier, or sue for penalties. In order to the due carrying out of the provisions of the law with respect to drains new and old, it has been found necessary to appoint an additional officer in the Surveyor's Department, and such officer will be able I hope to give valuable assistance to the Sanitary Department by superintending the opening of drains for inspection under the above-mentioned 82nd clause.

"*Rules to be observed by builders* in the construction of drains and connected works," have been framed, and your Vestry have resolved "that measures be adopted to ensure the proper construction of the underground or buried portion of all house drains, and also to secure the construction and provision of the connected works, apparatus and other matters specified in the Act. The Surveyor is authorised, when he shall think fit, in cases of emergency, to do this work, and afterwards report thereon to the Vestry. In other special cases, if it appears to the Surveyor that it would be for the advantage of the Parish that the drains should be constructed by the Vestry rather than by the builder, it will be his duty to report thereon with a view to the drains being so constructed."

The importance in a sanitary point of view of this Report, with the rules, resolutions, &c., if duly carried out in practice cannot well be over estimated.

PUBLIC URINALS.

The subject of "necessary accommodation" came before your Vestry in November, having arisen out of complaints of the nuisances perpetrated in the vicinity of the Vestry Hall, on the foot-path leading to the Parish Church. The powers of Vestries are ample to enable them "to provide and maintain urinals, water-closets and like conveniences in situations where they deem such accommodation to be required, &c." (Metropolis Management Act, sect. 88), and your Vestry have already exercised these powers to the moderate extent of providing four urinals for the male sex, viz.,

at Jennings's Buildings, Hooper's Court, Westbourne Grove, and the Mall. But deeming this accommodation insufficient, though it is in some measure supplemented by about forty external urinals of a semi-public character attached to public houses, your Vestry resolved to refer the whole question of providing adequate necessary accommodation for both sexes to the Works, Sanitary and General Purposes Committee for inquiry and report. The inquiry was delegated to a sub-committee which, after holding several meetings, and spending a day in viewing the sites that had been indicated as the most suitable, reported, recommending the postponement of the question of providing accommodation for women, and naming fifteen sites suitable for additional public urinals. The report of the sub-committee was adopted by the Committee, the two sites first-named in the schedule attached to the Report were accepted, and it was then resolved to report progress. Your Vestry having considered the report of the Committee, disallowed the two sites in question, and referred the subject back to the Committee with an instruction that your Vestry "would not deem any scheme satisfactory that did not make provision for the requirements of the female sex"—a judicious reservation. This further reference came before the Committee in March, 1878, when it was unanimously resolved to postpone the whole question for a period of six months, and the report containing this resolution was in due course adopted by your Vestry.

LEGAL PROCEEDINGS.

Legal proceedings have been taken, on failure to obtain compliance with the notices served by order of your Vestry, in 18 instances, but there has been nothing of a character to call for special notice.

Much loss of time in the Police Court has been experienced as usual in waiting for a hearing and by adjournments, owing to the insufficiency of the arrangements for the administration of justice. The half only of one Magistrate's time devoted to a District which comprises the whole of the Borough of Chelsea—whatever may have been the case when the greater part of the principal parishes consisted of market gardens—is totally insufficient to cope with the business of the District, now that such open spaces have been covered with thousands of inhabited houses. It would be well worthy the consideration of your Vestry whether some steps should not be taken to obtain, as a minimum addition to the existing provision, the whole of the time of one Magistrate at the Hammersmith Police Court? Under the existing arrangements each Magistrate attends on three days in every week; the morning part of the day being spent at the

Court at Hammersmith, and the remaining hours at Wandsworth. Whether attendance at the Home Court by a Magistrate from 10 to 4 daily, would suffice for the speedy and punctual administration of justice is a question that time and experience only can answer.

MORTUARY AND DISINFECTING CHAMBER.

A public mortuary is still among the sanitary *desiderata* in Kensington, but negotiations are in progress the issue of which will probably remove the opprobrium of so important a parish being without a suitable temporary resting place for the dead—alike for the convenience of poor parishioners by whom such accommodation is greatly needed, and for the reception of the bodies of unknown persons who may die or be killed in the public streets. Hitherto in cases of sudden or accidental death of unknown persons bodies have been deposited in the Workhouse mortuary. This, however, is not a suitable place; and the use of it, moreover, is objected to by the Board of Guardians. Several years ago a Committee was appointed to give effect to the resolution of your Vestry to provide a mortuary, but nothing came of the labours of the Committee, as it was found impracticable to obtain a site. There is one site, however, which has always appeared to me superior to all others, viz., the disused Parish Churchyard, at the rear of the Vestry Hall; and it is highly satisfactory to me to know that the overtures which have now at length been made by your Vestry to the Churchwardens for a grant of that site, have been met by those gentlemen in a public spirit, which encourages the hope that, if no unforeseen obstacles should arise, we may hope before very long to see the building of a mortuary taken in hand.

Though it scarcely falls within my province to advert to such a topic, I have, nevertheless, ventured to urge the desirability of combining with the mortuary suitable accommodation for the Coroner, so as to obviate the disagreeable necessity under which that gentleman now lies of holding his court at public-houses. Should the mortuary, however, be erected on the proposed site, it would probably be deemed unnecessary to build a Court, for with two public buildings—the existing and the proposed New Vestry Hall, so closely adjacent, an arrangement could doubtless be made to place a room at the disposal of the Coroner. In this case, all that would be required in addition to two chambers for the dead (one for ordinary cases and the other for infectious cases), would be a convenient room for the use of medical men in making post-mortem examinations under the Coroner's order. Reference having been made to "infectious cases," it is but right to mention that the Churchwardens, properly anxious for the safety of the public desired my opinion whether there would be any danger to persons

residing near or having to pass, the mortuary from the presence therein of the bodies of those who had died of infectious diseases? To which question I replied in the negative. The area of infection of the most infectious disease is comparatively limited; and there would be practically no danger if living persons suffering from any such disease, or the bodies of persons who had died of the same disease, were exposed at such a distance as the proposed mortuary would be from the nearest inhabited dwelling. In practice, however, such bodies would be disinfected, and the coffins screwed down before removal to the mortuary. A further question having been raised, Whether the mortuary would be used? I may state that time would be required to educate the poor into a knowledge of the value of such an establishment; but I have no doubt that any aversion, from prejudice or custom, against the removal of the dead from amongst sorrowing survivors would be greatly mitigated by the sacred associations of the proposed site, especially if these should be sustained, as I advise, by the erection of a quasi-ecclesiastical structure. The funerals of poor persons conducted at the cost of the ratepayers, through the agency of the Board of Guardians, number some three hundred annually, and as a family often lives in a single room it would necessarily be a great relief to them—if they could be brought to see it—to be able to put their dead out of their sight pending the arrangements for interment. In course of time the natural feeling of unwillingness to use the mortuary would subside, and I hope give place to a spirit of thankfulness at such a provision having been made. This at any rate has been the course of events in other districts where, after a period of neglect, the mortuary has come to be more and more appreciated. With respect to one class of cases, the infectious, the law safeguards public health by a provision which should be duly exercised, viz., by authorising a justice of the peace to order the removal of the body of any person who has died of an infectious disease, on the certificate of a duly qualified medical man showing that the retention of the dead body in the midst of the living is calculated to spread disease.

My opinion having been asked, Whether more than one mortuary is necessary? I have not hesitated to reply in the negative. The expense of the removal of a body to any part of the parish, would be practically the same, and as sufficient accommodation can be provided in one mortuary, it would be needless to go to the expense of a second, which would involve an annual charge for attendance, &c., to say nothing of the outlay on the site and the building.* It is no inconsiderable part of the advantage of the churchyard site that if your Vestry should see fit, the

* The disused churchyard of Holy Trinity, Brompton, has been proposed as the site of a second mortuary. To this site no objection could be raised should it be found practicable to provide and maintain a mortuary for the local use of parishioners in Brompton.

mortuary might ultimately be placed under the charge of the keeper of the old Vestry Hall, thus reducing the annual expense to an insignificant minimum.

In some of my former reports I have advocated the combination of a disinfecting chamber on the same site with the mortuary with the object of keeping down the charge for attendance, &c. Should the scheme for the erection of a mortuary in the churchyard be carried into effect, the two buildings could not be associated. It would then become a question whether it is necessary to provide such a chamber at all, seeing how well the plan of contracting for the performance of disinfection has worked—especially since the contractor has enlarged his premises, and thus made provision for dealing with the clothing, bedding, &c., of small pox and scarlet fever patients apart from all other infected things? A Committee of your Vestry gave great attention to the question of providing a chamber, referred to them in 1870, and we should doubtless have had one long ago, but that it was found impracticable to secure a site. The experience of the last two years, however (and it has been great owing to the prevalence of small pox), has satisfied me that the existing system of contracting is economical, expeditious, efficient, and more advantageous to the poor than any other. The contractor sends for the infected things by special messenger immediately on receipt of an order, and they are not only disinfected (by heat and chemical agency), but they are also *cleansed* and returned in a wholesome state to the owners. The latter part of the process could not be carried out if your Vestry had a disinfecting chamber of whatever construction.

During the twelve months ended 25th March, articles of an endless variety have been disinfected, which weighed upwards of eleven tons, and the total charge for the work of disinfection and cleansing was £236 6s. Now, supposing that your Vestry should build a suitable chamber, it would be necessary to employ a staff of assistants to fetch and deliver the clothes, bedding, &c., and to attend to the apparatus whatever the state of health of the parish *qua* infectious disease. Under the present plan payment is made only for work done, so that in the absence of epidemics the charge is insignificant, and the average annual charge is much below what it probably would be if your Vestry provided a chamber.

Not less important than the disinfection of clothing and bedding is the disinfection of the rooms, &c., occupied by the sick. Finding that in the majority of cases this work could not be efficiently carried out by the poor—and feeling that it was useless to purify the contents of the sick room if the room itself was left in an infectious state—I advised your Vestry to undertake the duty, and it has been done since May, 1877; no fewer than 360 dwelling

rooms in 312 houses having, in twelve months to 30th April last, been disinfected by your Vestry's officer to whom this duty has been entrusted. The work has been done in a very satisfactory manner; and though I am not prepared to speak in terms of absolute certainty, I have reason to believe that in no case where disinfection has been done by your Vestry's Officer and by the contractor, has infection been spread by *contagium* remaining in the sick room or its contents. It has not been found necessary, moreover, to destroy clothing, bedding, &c—a plan adopted in some parishes, and found to be very costly in the way of compensation.

Should the negotiations above referred to for a site for a mortuary fall through, and should your Vestry be thus compelled to look elsewhere for a site, it would of course become a question whether a very complete establishment should not be provided, including mortuary (two rooms), a *post mortem* room, and a Coroner's Court; to which might then be added a disinfecting chamber of the most approved description—the entire establishment to be placed under the charge of a responsible officer who would act as keeper of the mortuary, and superintendent of disinfection. This plan would doubtless prove costly; but whatever the expense there can be no question but that it should be carried into effect with as little delay as possible. I trust, however, that the necessity will not arise.

BATHS AND WASHHOUSES.

Your Vestry having previously expressed approval of the principle of the Acts for providing Public Baths and Washhouses, have now adopted them. The sanction of the Local Government Board has been obtained, and Commissioners will shortly be appointed to carry out a scheme. It is intended in the first instance to erect baths, &c., in the northern part of the parish at Notting Hill, and it may be fairly hoped, that, as one of the first and best results of the Commissioners' labours, many of the almost innumerable laundresses in that neighbourhood will use the washhouses; for, as a rule, nothing can be more unsatisfactory or insanitary, than the arrangements for the washing of family linen in the close and crowded houses occupied by the people who carry on this business. It may be hoped that in due course baths, &c., will be provided for the central and southern wards—separately or in combination: but whatever may be the case at Notting Hill, not the least of the difficulties in carrying out the Acts in the other wards will be the discovery of a site or sites purchaseable at a reasonable rate. The difficulty may prove well nigh insuperable in the South District, and will not be slight in the Central Ward, notwithstanding the compulsory powers for the acquisition of sites for carrying out the purposes of the Act.

WATER SUPPLY.

The water supply of Kensington is in the hands of three Companies, (West Middlesex, Chelsea, and Grand Junction), which obtain water from the Thames above tidal influence, viz., at Hampton, Ditton, and Molesey.

Professor Frankland, F.R.S., in his annual report to the Registrar General on the monthly analysis of the water supplied by the several Companies in 1877, furnishes some interesting information, which I propose, as usual to summarise. The average daily supply by the eight Companies was no less than 120,864,496 gallons. Of this quantity the Professor states 60 million gallons were sometimes much polluted with sewage matters, 52 million gallons and upwards were occasionally so polluted, but to a much less degree, whilst 7,230,993 gallons were of unexceptionable quality. The water he praises is drawn from deep wells in the chalk by the Kent and Colne Valley Companies, and by the Tottenham Local Board of Health, of which the quality is described as so excellent as to render comparison with river waters superfluous. "It is very desirable both in the interests of temperance and public health, that this delicious water should, as soon as possible, be substituted for that portion of the Metropolitan supply which is drawn from polluted rivers. This spring water, of unsurpassed purity, palatability, and wholesomeness is everywhere abundant in the Thames basin. In dry seasons it constitutes the sole supply of the river, and even after the most protracted drought more than 350,000,000 of gallons of it flow over the weir at Teddington, whilst a further large volume of it joins the Thames lower down. Surely it cannot be beyond the powers of Parliament and engineers to collect and preserve from irretrievable sewage pollution a small fraction of this prodigal supply, and to distribute it to those portions of London which at present drink it after it has been mixed with the sewage of more than half a million of people." The natural filtration it undergoes through an enormous thickness of chalk renders artificial filtration unnecessary, and is the cause of its almost uniform clearness and transparency. Among other advantages due to its origin, the temperature of this water is never high enough to make it unpalatable. The maximum temperature of the Kent water in July was 57°·9 Fahr., and the minimum in March, 45°—the range of temperature thus extended through only 13°·0.

Of the river waters, Professor Frankland speaks in far different terms. The range of temperature extended through no less than 25°·7 Fahr., viz., from 43°·3 in March to 68° in August, when the water was vapid and unpalatable. It contained among other solid matters a small proportion of organic substances, which, always objectionable, are at times dangerous to health—the pollution being to a great extent of animal origin. The year, however,

was, like 1876, very favourable to the river waters; nevertheless "in the months of January, April, and December, the Thames water was delivered to consumers in such a polluted condition as to be utterly unfit for dietetic purposes." And it appears that the improvement exhibited in Thames water is to be attributed almost wholly to the more careful treatment of the water by the Companies, as evidenced by the fact that the proportion of organic impurity in the Thames water which was inefficiently treated by the Southwark Company was excessive. Of the waters supplied from the Thames, that delivered by the West Middlesex Company was the best.

The late Rivers' Commissioners in their Report on the Domestic Water Supply of Great Britain (speaking with reference to the proportions of organic elements) say, "We consider that potable water which contains organic matter, even only partially derived from animal sources, should not yield much more than 0·1 part of organic carbon in 100,000 parts of water," but the maximum pollution in the Thames (January, 0·40 in 100,000 parts, chiefly organic carbon) greatly exceeded this standard. The evidence of previous sewage contamination continues without diminution, and is of much significance, owing to the likelihood of morbid matter derived from animal excreta being carried down the stream, and distributed to the customers of the Companies.

The following table shows the maximum, minimum, and average proportions of organic elements (organic carbon and organic nitrogen), in each of the local Companies' waters during the year; the amount found in the Kent Company's water being taken as unity.

Source.	Company.	Maximum.	Minimum.	Average.
Deep Wells	Kent - -	1·4	0·6	1·0
	West Middlesex -	6·0	1·2	3·4
River Thames	Chelsea -	7·0	1·9	3·9
	Grand Junction -	6·9	1·4	3·6

The average hardness of the Thames water, (or the weight of carbonate of lime, or its equivalent of other soap destroying substances found in 100,000 parts of the water) was 19°·5 or parts in 1877 (19°·8 in 1876). The average hardness of the Kent Company's water (derived from the chalk) was 27°·5 or parts, and the Colne Valley Company's water only 5°·1 or parts; the water of the last named Company being softened by Clark's process before delivery, and thus rendered suitable for washing, whilst its excellence for dietetic purposes is not thereby impaired.

The following table exhibits the results of observation as to the degree of efficiency of filtration of Thames waters distributed by the local Companies (monthly examination);—

Names of Companies.	Number of occasions when clear and transparent.	Number of occasions when slightly turbid.	Number of occasions when turbid.	Number of occasions when very turbid.
West Middlesex	- 12	0	0	0
Grand Junction	- 8	4	0	0
Chelsea	- 7	4	1	0

As in former years, the West Middlesex Company is the only one that uniformly distributed water which, examined in a two-foot tube, presented a clear and transparent appearance: but it is admitted that the filtration of the river water generally has undergone great and continuous improvement since the year 1868, when Professor Frankland instituted these observations. When examined by the microscope the sediment deposited by turbid water on standing is almost always found to contain numbers of living and moving organisms. The subjoined table shows with what frequency these organisms have been observed in the water supplied by the local Companies (monthly examination):—

Names of Companies	Number of occasions when moving organisms were found.								
	1869	1870	1871	1872	1873	1874	1875	1876	1877
West Middlesex	0	0	0	0	0	0	0	0	0
Grand Junction	4	1	1	2	3	5	7	3	3
Chelsea	3	2	2	3	2	7	4	4	1

The subjoined table exhibits the averages for 1877 of solid impurity, and other particulars, the numbers relating to 100,000 parts of each water:—

NAME OF COMPANY.	Temperature in Centigrade Degrees.	Total Solid Matters.	Organic Carbon.	Organic Nitrogen.	Ammonia.	Nitrogen as Nitrates and Nitrites.	Total combined Nitrogen.	Chlorine.	Total Hardness.	Proportionate amount of organic Elements, that in the Kent Company's Water being taken as 1
Kent	12.8	42.33	.049	.011	0	.491	.501	2.48	27.5	1.0
West Middlesex ...	12.1	27.44	.170	.029	0	.216	.245	1.53	19.3	3.4
Grand Junction ...	10.8	28.24	.176	.034	0	.216	.250	1.53	19.8	3.6
Chelsea	11.5	27.14	.195	.032	0	.224	.256	1.55	18.9	3.9

The monthly Reports of Colonel Bolton, R.E., the water examiner, which are regularly forwarded to me, contain a variety of interesting information on the state of the water in the Thames, &c., and with reference to the state of filtration, and the apparatus and machinery of supply generally. Colonel Bolton states that the Chelsea Company are now in the same favourable position as the West Middlesex, in having sufficient storage capacity and impounding reservoirs to avoid taking in water when floods prevail. The Grand Junction Company, on the other hand, is not so circum-

stanced, but has arranged for the construction of suitable storage reservoirs and other works at Hampton. The filter beds at Kew of this latter Company are also to be put in thorough working condition, and the area thereof greatly extended. These much needed additions and alterations will, without doubt, greatly improve the quality of this Company's supply. The rate of filtration of the Metropolitan water supply should not exceed 540 gallons per square yard of filter bed each 24 hours, and at this rate Colonel Bolton says filtration should be effectual. The composition of the filters of the West Middlesex Company is as follows:—Harwich sand, 1 foot 9 inches; Barnes sand, 1 foot; gravel, screened to different sizes, and arranged in layers, 2 feet 3 inches. Total depth of bed, five feet.

Not much progress has been made in the matter of constant supply. The West Middlesex Company is said to be giving it to some houses, and to be prepared to extend the system as required; but no steps have been taken to make the constant supply general. The Chelsea Company are moving more actively in this direction, but no reference is made to any similar action on the part of the Grand Junction Company. The difficulty arises in connection with the alterations in fittings under the Board of Trade Rules and Regulations which the Metropolitan Board of Works, the "Public Authority," deem too stringent, and they have therefore not taken the steps the law empowers to bring about a constant supply.

The filthy state into which cisterns are frequently allowed to fall neutralises the efforts of the Companies, and the Water Examiner, &c., to obtain an efficiently filtered supply. In addition to this common form of neglect, the water in many cisterns is still further exposed to pollution of a dangerous character by the retention of the waste-pipe in direct connection with drains. It is in the power of the Water Companies to remedy this evil, under Regulation 14, but with the exception of the Chelsea Company, whose necessities a few years ago compelled them to economise water, and who without any great difficulty, as I was informed, succeeded in getting the waste-pipes abolished from the cisterns in their districts, nothing has been done by the Companies to effect this improvement, so obviously desirable in a sanitary point of view, excepting in houses where the fittings have been renewed on the constant supply being given. Nor have they been stimulated to action by public bodies, or by the Government, though Colonel Bolton always refers to the necessity of the alteration in his monthly reports. Dirty cisterns and waste-pipes, however, are not the only sources of fouled water. Oftentimes the cause of pollution is found in the domestic filter which some persons appear to treat as if it were indestructible, or at least

needed no attention. On investigation of complaints as to water being "unfit to drink," it has been found that the water, clear and transparent as supplied by the Company, had contracted all its bad qualities in the process of "purification" by the filter!

"A NEW SCHEME OF WATER SUPPLY."—Under this head I referred in my last annual report to a plan by eminent engineers to provide London with a supply of the deep well water eulogised by Professor Frankland, for dietetic and fire brigade purposes, as well as for the purchase of the interests of the Water Companies by the Metropolitan Board of Works. The Board brought in two Bills to effect these objects during the current Session of Parliament, but the opposition the Companies were able to bring to bear against them was too strong to be resisted, and both measures have been withdrawn.

GAS.

The subjoined tables from the reports of the Chief Gas Examiner, exhibit at a glance the chief results (quarterly averages) of the daily testings of the gas made by the Gas Light and Coke Company at Kensal Green, and supplied to the testing station at 123, Ladbroke Grove, Notting Hill. Sulphuretted hydrogen, a forbidden impurity, was invariably absent throughout the year, while ammonia was present at rare intervals only, and in such fractional quantities (far below the permitted amount), as not to call for notice.

1. WITH RESPECT TO ILLUMINATING POWER.

The maximum, minimum, and average illuminating power in standard sperm candles are as follows:—(Statutory standard=16 candles).

	Maximum.	Minimum.	Average.
Quarter ended Mar. 31st,	17·8	15·2	16·8
Quarter ended June 30th,	17·2	16·2	16·8
Quarter ended Sept. 30th,	18·3	15·5	16·8
Quarter ended Dec. 31st,	19·1	16·1	16·8
	<hr/> 18·1	<hr/> 15·7	<hr/> 16·8

The gas which was tested on nearly every week day through, out the year fell short of the standard on two occasions only—viz., October 12th (15·6), and October 13th (15·5 candles).

2. AS REGARDS PURITY. GRAINS OF SULPHUR PER 100 CUBIC FEET OF GAS.

(Permitted maximum, 25 Grains.)

	Maximum.	Minimum.	Average.
Quarter ended Mar. 31st,	19·5	11·3	14·2
Quarter ended June 30th,	17·0	10·9	13·0
Quarter ended Sept. 30th,	24·0	6·2	12·2
Quarter ended Dec. 31st,	20·8	4·3	17·1
Averages	20·3	8·2	14·1

No complaint with respect to the illuminating power of the gas was made to me during the year; and satisfaction has been generally expressed at the improved lighting of the streets. The old burners adapted to burn three cubic feet of Cannel gas per hour, have been removed, and suitable burners, consuming $4\frac{1}{2}$ feet of common gas per hour, have been substituted. This fact notwithstanding, the actual cost of the gas consumed under the average meter system has not, I understand, been above the amount paid for gas under the old system of a fixed charge per lamp per annum.

In concluding my report I have again to tender my best thanks to those official persons and others who have kindly assisted me in carrying out the duties of my department. To the services rendered to the parish by the action of the Board of Guardians and their officers, I have referred elsewhere, and I have also acknowledged the solid character of the work done by Mr. Shattock, the Vaccination Officer. The Sub-district Registrars of Births and Deaths, Messrs. Barnes and Hume, have ever given me their cordial help in all matters connected with their department.

Your Vestry have testified approval, which I cordially share, of the care and efficiency shown by Mr. Rudman in the discharge of his responsible duties as Sanitary Clerk and Special Inspector. Mr. Thomas Gaylard having satisfactorily performed his original duties as Inspector of Dustbins, has been promoted to the more responsible post of Sanitary Inspector. He and the other newly-appointed Inspectors—Messrs. Wightman, Middleweek, and Abbott—give promise of becoming efficient officers, and I have confidence that when they have acquired a thorough knowledge of their duties, they will justify the choice of your Vestry.

For the support I myself have received from your Vestry on all occasions, and the undeviating confidence reposed in me during a period of more than seven years, and which have greatly aided me in the discharge of the many responsible duties of the office with which I am entrusted, it is alike my duty and my pleasure to express grateful thanks.

I am, Gentlemen,

Your obedient Servant,

T. ORME DUDFIELD, M.D.,

Medical Officer of Health.

VESTRY HALL, KENSINGTON,

July, 1878.

TABLE I.

Estimated population of Kensington at the middle of the year 1877, and in 10 previous years; number of inhabited houses; Births, Deaths, and Marriages (gross numbers).

Year.	Estimated Population*	Number of Houses.	Registered Births.	Deaths.	Marriages.
1877.	151,000	19,330	4,648	2,624†	1,411
1876	148,000	18,944	4,499	2,896	1,417
1875	143,500	18,444	4,478	2,786	1,346
1874	138,000	17,667	4,356	2,696	1,811
1873	133,000	16,920	4,182	2,439	1,243
1872	127,400	16,206	4,041	2,225	1,132
1871	121,500	15,394	3,804	2,360	1,181
1870	116,350	15,279	3,705	2,473	892†
1869	111,350	14,654	3,625	2,267	891†
1868	106,350	14,029	3,522	2,232	984†
1867	101,350	13,404	3,158	1,933	974†
Average of 10 years, 1867-1876	124,680	16,094	3,937	2,430	"

Notes.—Population at Census, 1871, 120,234.

Average number of persons per house at Census, 1871, 7·8.

Area in Statute Acres, 2,190.

* The population is estimated to the middle of the year. Between 1867 and 1871 inclusive, a yearly addition has been made to the population based on the known increase between the Censuses of 1861 and 1871. The same principle has been adopted with regard to the number of inhabited houses, in the absence of specific information on the subject, such as has been forthcoming since 1871. Some of the figures in this and subsequent Tables differ from those in former reports, as the result of a revision of the estimated population, based upon the best attainable information. The population at the Census, 1861, was 70,108.

† The returns of marriages for the years 1867-70, inclusive, do not include those that took place at the Superintendent Registrar's Office, concerning which I have no information.

‡ The actual number of deaths registered in the Parish was 2,558, and it includes 125 deaths of non-parishioners, which are retained as a compensative allowance for the deaths of parishioners that may have taken place in general hospitals, &c., out of the Parish. The total, 2,624, is made up by the addition of 66 deaths of parishioners from small-pox and "fever," that took place at the hospitals of the Metropolitan Sick Asylum Board.

TABLE II.
Showing Birth and Death Rate : Deaths of Children, and Deaths in Public Institutions 1877, and 10 previous years.

The Year.	Births per 1000 of the population.	Death rate per 1000 living.	Deaths of Children under 1 year per cent. to Total Deaths.	Deaths of Children under 1 year per cent. to Registered Births.	Deaths of Children under 8 years per cent. to Total Deaths.	Deaths in Public Institutions
1877	30·8	17·3	25·3	13·9	40·8	354*
1876	32·9	19·5	26·6	17·1	44·6	338
1875	31·2	19·4	25·0	15·6	40·3	338
1874	31·7	19·5	28·5	17·5	45·4	252
1873	31·4	18·3	27·0	15·9	40·0	272
1872	32·1	17·4	28·9	15·6	44·2	264
1871	31·8	19·4	25·0	15·0	41·6	253
1870	32·1	21·2	24·0	16·4	42·9	330
1869	32·5	20·3	†	†	†	313
1868	33·1	21·0	†	†	†	303
1867	31·2	19·0	†	†	40·6	221
Average of 10 Years, 1867—76.	31·9	19·5	26·4	16·1	42·4	288

* Viz. The Workhouse (223), and the Hospital for Chest Diseases at Brompton (130.)

† No information.

NOTE.—The calculations in this Table are made on the gross number of deaths registered without deduction of those of non-parishioners at public institutions.

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1874	31·7	19·5	28·5	17·5	45·4	252
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1870	32·1	21·2	24·0	16·4	42·9	330
1869	32·5	20·8	†	†	†	313
1868	33·1	21·0	†	†	†	303
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* Viz. The Workhouse (223), and the Hospital for Chest Diseases at Brompton (130.)

† No information.

NOTE.—The calculations in this Table are made on the gross number of deaths registered without deduction of those of non-parishioners at public institutions.

TABLE IV.

Showing Mortality from certain classes of Diseases and proportions to Population, and to 1,000 Deaths, 1877, viz.—

Diseases.	Total Deaths.	Deaths per 1000 of Population.	Proportion of Deaths to 1000 Deaths.
1. Seven Principal Zymotic Diseases	338	2·2	129
2. Pulmonary (<i>other than Phthisis</i>)	541	3·5	206
3. Tubercular	374	2·4	142
4. Wasting Diseases of Infants (<i>under 5</i>) ...	202	1·3	77
5. Convulsive Diseases of Infants (<i>under 5</i>) ...	190	1·3	76

NOTES.

1. Includes Small Pox, Measles, Scarlet Fever, Diphtheria, Whooping Cough, "Fever" and Diarrhœa.
3. Includes Phthisis, Scrofula, Rickets, and Tabes.
4. Includes Atrophy, Debility, Want of Breast Milk, and Premature Birth.
5. Includes Hydrocephalus, Infantile Meningitis, Convulsions and Teething.

TABLE V.

Showing the number of Deaths in 10 years, 1867-76, from the seven principal Zymotic Diseases, and the number in 1877, &c.

Disease.	1867	1868	1869	1870	1871	1872	1873	1874	1875	1876	Annual Average 10 years 1867-76	Proportion of Deaths to 1000 Deaths in 10 years, 1867-76	1877	Proportion of Deaths to 1000 Deaths in 1877.
Smallpox	29	4	6	8	120	63	1	0	0	8	24.4	10.0	84	32.0
Measles	19	84	27	70	64	43	38	121	23	128	61.7	25.5	51	20.5
Scarlet Fever.....	35	170	106	198	95	29	10	32	83	59	81.7	33.7	31	11.7
Diphtheria.....	Not separately registered.		9	14	11	14	11	26	23	17	12.5	5.1	10	3.8
Whooping Cough ...			71	55	72	77	44	45	107	124	69.7	28.8	34	12.9
"Fever".....	46	52	42	46	48	42	41	52	29	26	43.4	17.9	27	10.3
Diarrhoea	78	113	108	154	129	110	145	112	107	126	118.2	49.0	99	37.8
Total, KENSINGTON	275	457	369	545	539	383	290	388	372	498	411.6	170.0	339	129
Total, London	11,660	14,925	17,413	16,476	19,455	12,699	11,385	11,230	13,411	12,565	14,121	185	12,865	160
TOTAL, ENGLAND & WALES 1865-74*	1866	1867	1868	1869	1870	1871	1872	1873	1874	1875	1865-74	1865-74	1875	1875
	89,692	72,587	97,352	90,380	100,497	103,801	91,743	89,286	88,200	82,000	90,856	182	92,030	150

* The Totals for England and Wales are for the ten years 1865-74, compared with 1875, the last year of publication

TABLE VI.
Inspectors' Report of the Sanitary Work completed in the year ended March 25th, 1878.

Sub-districts.	No. of Complaints received during the year.	No. of Houses and Premises, &c., inspected.	Results of Inpection.			House Drains.		Privies and W.C.'s.			Dust Bins.		Water Supply.		Miscellaneous.							
			Orders issued for Sanitary Amendments of Houses and Premises.	Houses, Premises, &c., Cleansed, Repaired and Whitewashed.	Houses Disinfected after Infectious Diseases.	Repaired, Cleansed, &c.	Trapped or Ventilated.	Repaired, Covered, &c.	Supplied with Water.	New provided.	New provided.	Repaired, Covered, &c.	Cisterns (new) erected.	Cisterns Cleansed, Repaired and Covered.	No. of Lodging Houses registered under 35th Clause of Sanitary Acts, 1866.*	No. of Dust Complaints received and attended to.	Removal of accumulations of Dung, Stagnant Water, Animal and other Refuse.	Removal of Animals, &c., improperly kept.	Bakehouses.	Licensed Cowhouses.	Licensed Slaughtershouses.	Other Proceedings, e.g. Legal Proceedings.
North.	725	2587	691	647	152	227	93	104	114	14	41	115	22	127	..	1850	84	74	69	19	21	15
South.	549	1972	520	493	186	189	64	73	95	5	23	76	12	86	..	2148	52	12	52	11	10	3
Total.	1274	4559	1211	1140	288	416	157	177	209	19	64	191	44	213	..	3998	136	86	121	30	31	18

* This Act has not been put into operation.

TABLE VIa.

Summary of Monthly Returns of Sanitary Work done by the Inspectors.

Date of Report.	Removal of Dust, Ashes, &c.												Date of Report.
	North District.						South District.						
	Request.	Complmt.	Total.	Request.	Complmt.	Total.	Request.	Complmt.	Total.	Request.	Complmt.	Total.	
May 2, 1877	332	23	355	341	14	355	81	...	81	72	...	72	July 25 "
May 30 "	162	5	167	242	15	257	61	...	61	58	...	58	Aug. 18 "
June 27 "	287	2	289	338	3	341	54	...	54	40	...	40	Sept. 19 "
July 25 "	81	...	81	72	...	72	57	1	58	88	1	89	Oct. 17 "
Aug. 18 "	61	...	61	58	...	58	110	...	110	145	...	145	Nov. 14 "
Sept. 19 "	54	...	54	40	...	40	114	...	114	133	2	135	Dec. 12 "
Oct. 17 "	57	1	58	88	1	89	221	2	223	191	5	196	Jan. 9, 1878
Nov. 14 "	110	...	110	145	...	145	141	...	141	197	...	197	Feb. 6 "
Dec. 12 "	114	...	114	133	2	135	112	...	112	144	...	144	March 6 "
Jan. 9, 1878	221	2	223	191	5	196	85	...	85	119	...	119	April 3 "
Feb. 6 "	141	...	141	197	...	197	...	...	...	...	...	...	Totals.
March 6 "	112	...	112	144	...	144	1817	83	1850	2108	40	2148	
April 3 "	85	...	85	119	...	119	676	924	—	228	60	—	
Totals.	1569	1400	416	387	120	78	150	79	272	228	60	—	

TABLE VII.

Showing the Death rate per 1,000 persons living; the annual rate of Mortality per 1,000 living from seven Zymotic Diseases; and the proportion of Deaths from these Diseases to the total Deaths in Kensington and in all London in 1877, and in the ten years, 1867-76.

The Year.	Deaths per 1000 living.		Total Deaths from seven Zymotic diseases, Kensington.	Annual rate of Mortality per 1,000 living from seven Zymotic Diseases.		Proportion of Deaths to 1000 Deaths from seven Zymotic diseases.		The Year.
	Kensington.	London.		Kensington.	London.	Kensington.	London.	
1867	19.0	23.0	276	2.7	3.7	142	166	1867
1868	21.0	23.6	457	4.2	4.7	208	200	1868
1869	20.2	24.6	369	3.3	5.5	164	227	1869
1870	21.2	24.1	545	4.6	5.1	222	213	1870
1871	19.1	24.7	542	4.4	6.0	233	242	1871
1872	17.0	21.4	390	3.0	3.8	181	179	1872
1873	18.3	22.5	290	2.1	3.3	119	149	1873
1874	19.5	22.5	388	2.8	3.3	144	147	1874
1875	19.4	23.7	372	2.5	3.9	133	164	1875
1876	19.5	22.3	498	3.3	3.6	172	162	1876
AVERAGE OF TEN YEARS.	19.4	23.2	412	3.2	4.2	171	184	AVERAGE OF TEN YEARS.
1877	17.3	21.9	339	2.2	3.5	129	160	1877

TABLE VIII.

Comparative Analysis of the Mortality in all London and in Kensington, in 52 weeks, ended 29th December, 1877.

LOCALITY.	Annual Death Rate per 1,000 living from all causes.	Annual Death Rate per 1,000 living from principal Zymotic diseases.	Per centage of Deaths under 1 year to Births Registered.	PER CENTAGE OF DEATHS TO TOTAL DEATHS.					
				Under 1 year of age.	At 60 years of age and upwards.	From 7 Zymotic diseases.	From Violence.	Registered upon infor- mation of the Coroner. (Inquests.)	Registered in large Public Institutions.
London ...	21.9	3.5	14.6	24.0	20.5	16.0	3.3	6.4	19.2
Kensington ...	17.3	2.2	13.9	25.3	23.8	12.9	1.7	5.5	13.5

TABLE IX.

Showing the Principal Localities in which fatal cases of the chief Zymotic Diseases occurred in 1877.

KENSINGTON TOWN REGISTRATION SUB-DISTRICT.

Locality.	DISEASES.								Locality.	DISEASES.											
	Small Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Typhus.	Enteric.	S. C. F.		Diarrhoea.	Total.	Small Pox.	Measles.	Scarlet Fever.	Diphtheria	Whooping Cough.	Typhus.	Enteric	S. C. F.	Diarrhoea.	Total.
Absalom Road	1	1	..	..	..	..	..	..	1	3	Ladbroke Grove Rd.	1	1	..	..	1	..	1	..	..	4
Abingdon Road ...	..	..	3	..	..	..	..	..	..	3	Lancaster Mews ...	1	..	..	..	..	..	..	..	..	1
Admiral Place .....	..	..	..	..	..	..	..	..	3	3	Lancaster Road ...	..	..	2	..	1	..	..	..	1	4
Appleford Road ...	2	..	1	..	..	..	..	..	..	3	Ledbury Mews.....	..	..	..	1	1	..	..	..	1	3
Bangor Street	1	..	..	..	..	..	..	..	2	3	Ledbury Road .....	..	..	..	..	..	1	..	..	..	1
Basing Road.....	..	..	..	1	..	..	..	..	..	1	Lonsdale Yard .....	..	3	..	..	..	..	..	..	..	3
Blechynden Street..	..	..	3	..	..	..	..	..	..	4	Merton Road .....	..	..	..	1	1	..	1	..	..	3
Bolton Road.....	..	..	..	..	..	..	..	..	3	3	Munro Mews	1	..	..	..	..	..	..	..	..	1
Bosworth Road ...	1	..	..	..	..	1	..	..	2	4	Portobello Road ...	..	2	1	2	..	..	..	..	4	9
Bransford Street....	..	..	..	..	..	1*	..	..	..	1	Raddington Road...	..	..	2	..	..	..	..	..	..	2
Buckingham Mews ..	..	..	..	..	..	..	1	..	..	1	St. Ervan's Road...	2	..	1	..	..	..	1	2	6	1
Buckstow Place	1	..	..	..	..	..	..	..	..	1	St. Luke's Mews ...	..	..	1	..	..	..	..	..	..	1
Cornwall Road ...	1	..	1	..	..	..	..	..	..	2	St. Katherine's Road	..	..	..	1	1	..	..	..	3	7
Crescent Street .....	..	..	..	..	1	..	1	..	..	2	Southam Street ...	1	4	1	..	1	..	..	..	7	1
Edenham Street	2	2	2	..	..	..	..	..	2	8	Swinbroke Road ...	..	2	..	..	1	..	..	2	5	1
Elgin Crescent	1	..	..	..	..	..	..	..	..	1	Talbot Mews .....	..	..	..	1	..	..	..	..	..	1
Folborne Gardens..	2	..	1	..	..	..	..	..	..	3	Testerton Street ..	..	..	2	..	1	..	..	..	..	3
Folborne Road.....	1	2	..	..	..	..	..	..	..	3	Walmer Road	1	..	..	..	..	..	..	2	3	1
Folborne Terrace....	2	2	..	..	..	..	..	..	..	4	Western Terrace ..	1	..	..	..	..	..	..	..	..	1
Hansard Mews.....	..	..	3	..	..	..	..	..	..	3	William Street, N.D.	..	..	1	..	..	..	..	..	..	1
High Street, N.D. ...	1	..	..	..	..	..	..	..	..	1	Wormington Road..	..	4	..	..	..	..	..	1	5	1
Horbury Crescent..	..	..	..	..	..	1	..	..	..	1	Workhouse .....	..	..	..	4	..	..	..	..	12	16
Ladbroke Grove ...	..	..	..	..	1	..	1	..	..	2											

BROMPTON REGISTRATION SUB-DISTRICT.

Locality.	DISEASES.								Locality.	DISEASES.											
	Small Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Typhus.	Enteric.	S. C. F.		Diarrhoea.	Total.	Small Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Typhus.	Enteric.	S. C. F.	Diarrhoea.	Total.
Brompton Road	1	..	..	..	1	..	..	2	Fopstone Road.....	..	..	..	..	..	..	1	..	..	1
Jathcart Road	1	..	..	..	1	..	..	2	Ifield Road	1	1	..	..	..	..	..	..	..	4
Shapel Place	1	..	..	..	..	..	..	1	Queen's Gate .....	..	..	1	..	..	..	..	..	..	1
Child's Place	1	1	..	..	..	..	..	2	Queen's Street	1	..	1	..	..	..	..	..	..	2
Clareville Grove	1	..	1	..	..	..	..	..	..	2	Richmond Road .....	..	..	1	1	..	..	..	..	..	2
Fromwell Road	1	..	..	1	St. Mark's Road ...	1	..	..	..	..	..	..	..	..	1
Earl's Court Road..	1*	..	..	..	1											

* The validity of the diagnosis of *Typhus* is questioned, vide Report, page 10.

† Choleraic Diarrhoea.

TABLE X.
PARISH OF ST. MARY ABBOTTS, KENSINGTON.

Return respecting the Vaccination of Children whose Births were Registered during the year 1877.

DATE.	Registration Sub-Districts comprised in Vaccination Officer's District.	Number of Births returned in Birth List Sheets.	Number of these Births duly entered in Columns 10, 11, and 13 of the Vaccination Register (Birth List Sheets) viz.:			Number of these Births which are not entered in the Vaccination Register, on account, as shown by Report Book of				Cases still under proceedings by summons and otherwise.
			Column 10 Successfully vaccinated.	Column 11.		Column 13. Dead. Un-vaccinated.	Postponement by Medical Certificate.	Removal to Districts, the Vaccination Officer of which has been duly apprized.	Removal to places unknown, or which cannot be reached, and cases not having been found.	
	1	2	3	4	5	6	8	9	10	
1st January to 31st Dec.	Kensington ...	3681	3156	18	5	339	18	20	125	...
	Brompton ...	838	733	6	...	70	4	1	24	...
	Totals	4519	3889	24	5	409	22	21	149	...

TABLE XI.

LICENSED SLAUGHTER HOUSES.

SOUTH OF UXBRIDGE ROAD.

LOCALITY.	LICENSEE.
11, Church Street, Kensington	Mr. Stimpson
11, Peel Place, Silver Street ...	" Andrews
The Mall, Silver Street ...	" Wright
183, Brompton Road ...	" French
60, Kensington High Street ...	" English
Phillimore Mews ...	" Clayton
15, High Street, Notting Hill	" Short
133, Ditto ditto	" Candy
6, Addison Terrace, ditto ...	" Beall
35, Earl's Court Road ...	" Matson

NORTH OF UXBRIDGE ROAD.

13, Archer Mews ...	Mr. Bawcombe
20, Bolton Mews ...	" Smith
195, Clarendon Road ...	" Rush
10, Edenham Mews ...	" Gibson
Tavistock Mews Portobello Road	" Hughes
8, Vernon Mews, Portobello Road	" Young
196, Portobello Road ...	" Scoles
Ledbury Mews ...	" French
Lonsdale Mews ...	" Olney
50, Princes Road, Notting Hill	" Parratt
98, Ditto ditto ...	" Stovold
10, Princes Mews, Notting Hill	" Cole
10, Princes Road Mews ditto	" Coles
Clarendon Mews ditto	" Colley
41, Princes Place ditto	" Pickworth
23, Norfolk Terrace ...	" Matthews
61, Silchester Road ...	" Matthews
235, Walmer Road ...	" Van
Mary Place, Notting Dale ...	" Nind
Royal Crescent Mews ...	" Macpherson
Ditto ditto ...	" Down

TABLE XII.

LICENSED COW SHEDS.

SOUTH OF UXBRIDGE ROAD.

LOCALITY.	LICENSEE.
5, Glos'ter Grove ...	Mrs. Reeves
7, ^a The Mall, Notting Hill ...	Mr. Edwards
Ditto Ditto ...	" Draper
St. Mark's Road, Fulham Road ...	" Starr
Holland Park Farm ...	" E. C. Tisdall
Ditto Dairy ...	" E. C. Tisdall
Newland Terrace ...	" E. C. Tisdall
Warwick Road ...	" Pool
Stratford Road ...	" Clarke
Addison Cottage, Lorne Gardens ...	" Lyons
Newcombe Street ...	" Lunn

NORTH OF UXBRIDGE ROAD.

191, Portobello Road ...	Messrs. Hughes and Son
207, Ditto ...	Aylesbury Dairy Company
3, 4, 5, Angola Mews ...	Mr. Jennings
4, 5, 6, Wornington Mews ...	" Jones
Ledbury Mews ...	" Rennie
Ditto ...	" Liddiard
187, Walmer Road ...	" Arnsby
235, Walmer Road ...	" Van
47, Tobin Street, Notting Dale ...	" Bedgood
12, Blechynden Mews ...	" White
14, ditto ...	" Copperwheat
15, ditto ...	" Salisbury
10, Talbot Mews ...	" Hornsby
3, 4, & 5, Archer Mews ...	" Skingle
23, Bramley Road ...	" Crew
27, Queen's Road ...	" Williams
49, Tavistock Crescent ...	" Minter
2, Portobello Terrace ...	Messrs. Ross & McCulloch
Elm Cottage, St. Mark's Road ...	Mr. G. Attfield

THE ANNUAL REPORT

ON

THE HEALTH,

SANITARY CONDITION,

&c., &c.,

OF THE

Parish of St. Mary Abbots,

KENSINGTON,

FOR THE YEAR

1878,

BY

T. ORME DUDFIELD, M.D.,

Medical Officer of Health.

HUTCHINGS AND CROWSLEY, PRINTERS, 123, FULHAM ROAD, S.W.
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1879.

11
12
13
14

15

CONTENTS.

	PAGE.
Prefatory Remarks	5
Death-rates (1873-8), Parochial and Metropolitan	7
Registration District ("Kensington") and Sub-Districts, what they comprise	7
Zymotic Diseases, The Seven Principal	8
" Whooping-cough... ..	8
" Diarrhoea	9
" Scarlet Fever	10
" Diphtheria	11
" "Fever"	11
" Measles	11
" Small Pox, Epidemic of	12
Fulham Hospital—Still an object of suspicion, on insufficient grounds...	15
" " Its work during the year	19
"Hampstead Hospital Case," The	21
Hospital Accommodation for Non-pauper Infectious Sick	22
" " Conference of Vestries, &c., on	22
" " Deputation to Local Government Board with respect to	24
(See Addendum, page 81, for result of Conference).	
"Disqualification by Medical Relief," A Bill to remove	26
Ambulance Service	29
(See Addendum also, page 82).	
Infectious Diseases, Prevention of the spread of... ..	29
" " Information of the existence of, how obtained	30
Population of Kensington in 1878 (estimated)	32
" of Sub-districts; relative proportion of the sexes; number of inhabited houses, &c.	32
Kensington, Evidences of the growth, wealth, &c., of (1801-79)	33
Marriages and Marriage-rate	33
Births and Birth-rate	38
Deaths and Death-rate (at ages and periods, and of the sexes)	34
Deaths, Special causes of	37
Public Institutions, Deaths at	43
Inquests, Facts about	45
" Why so many are necessary	47
Deaths not certified	48

	PAGE.
Glanders, Outbreak of at Colville Mews	48
„ Breaches of the Law relating to	50
„ Inquest on a Woman who died of	51
„ Action of "Local Authority" in relation to the Outbreak of	52
Meteorology	54
Vaccination	55
Sanitary Work	56
Slaughter Houses, The Licensed	56
Cowsheds	57
„ Report of Works, &c., Committee, on the	57
„ „ „ „ Further, showing the	
result of the action of Vestry for the improvement of	59
"Dairies, Cowsheds, and Milk-shops Order of 1879," The	60
„ „ Regulations as to	61
Bakehouses	64
Dust Removal	65
Manure (Stable), Non-removal of	65
"Offensive Matter," Removal of	66
Necessary Accommodation—Public Urinals	67
Legal Proceedings	67
Convictions under Dairies, &c., Order	68
„ for keeping Swine	68
„ for "transmitting" infected clothing	69
Richmond Gardens, Proceedings under Torrens' Act	70
Mortuary, Public	70
Disinfection	71
Baths and Washhouses	72
Lodging Houses, Proposed Regulations for	72
Water Supply	73
Gas	79
Conclusion	80

ADDENDUM.

"The Poor Law Act, 1879,"—makes provision for Hospital treatment of Infectious Diseases (non-paupers), Metropolitan Ambulance Service, &c., &c.	81
---	----

APPENDIX.

Statistical and other Tables, I—XII...	83
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TWENTY-THIRD ANNUAL REPORT
OF THE
MEDICAL OFFICER OF HEALTH,
BEING FOR THE YEAR 1878.

To the Vestry of the Parish of St. Mary Abbots, Kensington.

GENTLEMEN,

The year 1878 occupies an unfavorable position in respect of the vital statistics of our parish, especially as compared with 1877. The latter year was remarkable for a very low death-rate, viz., 17·3 per 1,000 persons living, or 2·2 per 1,000 below the decennial average (19·5). The death-rate of 1878, 20·3 per 1,000 in an estimated population of 153,600, was 0·8 above the average, and 3·0 per 1,000 above the rate in 1877. The deaths registered in the parish, and at the hospitals of the Metropolitan Asylums Board, in 1877, were only 2,624, being 272 fewer than the number in 1876 (2,896); but in 1878 the deaths were 3,120, or 226 more than in 1876, and 496 more than in 1877. These totals include in each case the deaths of non-parishioners at the Hospital at Brompton for Consumption and Diseases of the Chest, which are reckoned in our vital statistics by way of compensation for the unknown number of deaths of parishioners at hospitals and other places beyond the limits of the parish.

The Metropolitan death-rate, which in 1877 was 21·9 per 1,000, and 4·6 per 1,000 above the rate in Kensington, rose to 23·5 in 1878, being 3·2 per 1,000 only above that of Kensington. As the decennial death-rate in the Metropolis was 3·6 per 1,000 above that of Kensington, it would appear at first sight that the state of the public health of our parish, as gauged by the death-rate, was relatively worse last year

than that of the Metropolis generally; but at the least it cannot be deemed to have been so unfavorable as the rise of 3·0 per 1,000 above the low death-rate of 1877 might seem to indicate,—seeing that the rise in the Metropolitan death-rate was only 1·6; because the rate in 1877 was 2·2 per 1,000 below the decennial average, while that of the Metropolis was only 1·3 per 1,000 below the average. A death-rate much below the average one year, is nearly sure to be followed by a rate above the average in the next or following year; and, therefore, though it may be well to refer to the fluctuations in the rate from year to year, it would be unwise to attach too much importance to them, whether they represent an elevation or a depression of the wave of mortality. The healthiness of a district must be judged by the decennial rate.

It may be here mentioned, in passing, and in some sort as an illustration of the above remarks, that in 1877 the deaths from the “seven principal diseases” of the zymotic class were far below our decennial average, while in 1878, they were considerably above that average. Only 339 in the former year, they sprung up to 573* in the latter. There is some little satisfaction in noting, however, that the increase in the number of deaths from these maladies in 1878, was not due to the prevalence of the more serious members of the class, but to the unusual fatality of two infantile diseases, viz., whooping cough and diarrhoea, which were the causes of 185 and 181 deaths respectively. The excess of deaths from these two diseases alone (233) exactly accounts for the rise from 339 deaths from the “seven principal diseases of the zymotic class” in 1877 to 573 in 1878. The unusual fatality of these two diseases raised the “zymotic death-rate” to 3·7 per 1,000 living, which is considerably above the decennial average (3·2), and not much below the rate, in 1878, for the whole Metropolis (4·1). It accounts likewise for the high rate of infantile mortality throughout the year, the deaths of children under five years having numbered 1,429, including 823 of infants in the first year of life; whereas, in 1877, only 1,040 children died under five years, including 648 under one year, numbers considerably below the average. Particulars with reference to the deaths from zymotic diseases, and the causes of deaths generally, will be furnished latter on.

* These totals include the deaths at the Hospitals of the Metropolitan Asylums Board.

The subjoined table shows the relative rates of mortality in all London and the several great divisions thereof, and in our own parish, during the last six years :—

Death-rate.	1878.	1877.	1876.	1875.	1874.	1873.	
Kensington... ..	20.3	17.3	19.5	19.4	19.5	18.3	per 1,000.
London	23.5	21.9	22.3	23.7	22.5	22.5	„
West Districts ...	21.6	19.1	21.0	22.1	20.9	20.5	„
North „ ...	22.3	21.8	21.4	22.3	21.8	21.2	„
Central „ ...	24.9	24.1	24.0	26.0	25.6	25.0	„
East „ ...	24.9	24.4	24.0	25.5	25.4	25.2	„
South „ ...	24.2	21.3	22.1	25.0	21.5	22.0	„

REGISTRATION SUB-DISTRICTS.—As usual, there was a great difference both in the general and in the zymotic death-rate of the two registration sub-districts, into which the parish is unequally divided, viz., “Kensington Town” and “Brompton,” and much to the advantage of the latter. The former district, hereinafter for brevity called the “Town,” comprises that portion of the parish north of Kensington Road, and a portion south of that line. It has an area of 1,497 acres, and it had an estimated population of 114,100 at the middle of 1878. The area of “Brompton;” is 693 acres, and its estimated population was 39,500. The Town sub-district includes important open spaces, as Holland Park, Kensal Green Cemetery, and fields in the vicinity thereof, which are now being rapidly covered with houses. The Brompton sub-district, in which the builder has been very busy during the last few years—many of the new houses being of a palatial character—comprises within its boundaries the West London or “Brompton” Cemetery.

The two sub-districts differ widely in respect of the social status of their inhabitants. Speaking generally the rich and well-to-do form a large proportion of the population in “Brompton,” the “poor” being few in number; while in the Town sub-district, especially in the northern part of the parish, the poor constitute a large and an increasing percentage of the population. The poor in Kensington, however, have one advantage over the poor in some other parts of the Metropolis, especially at the East end, viz., that they live in houses obviously intended for a superior class: miles of streets of such houses being now inhabited by

persons who, in the older parts of the Metropolis, find shelter in dwellings that by comparison might be described as squalid. Rents are high, as might be expected, and there is a good deal of overcrowding, which leads me to fear that ere long, unless a remedy be provided, of which I do not see any present prospect, the Kensington rate of mortality may approximate more nearly to the Metropolitan rate than heretofore.

The propriety of dividing the "Town" sub-district, which is exceptionally large and populous, is under the consideration of Authorities at the present time.* At present, as before stated, the "Town" and "Brompton" sub-districts make up the *parish* of Kensington; but "Kensington" as a "registration district"—the parish and the district being often confounded—comprises a great deal more; viz., the parishes of Paddington, Fulham, and Hammersmith. The subjoined figures show the relative proportions of Kensington parish, and the other parishes comprised in the registration district of Kensington:—

	Area in statute acres.	Inhabited houses, 1871.	Population, 1871.
Kensington ...	2,190	15,735	120,299
Paddington ...	1,251	11,847	96,813
Hammersmith	2,287	6,719	42,691
Fulham ...	1,716	3,469	23,350

For some parochial purposes Kensington parish is divided into wards. The subjoined figures show the acreage of the several wards, and other particulars of interest which relate to the census year, 1871.

Name of Ward.	Area in statute acres.	Inhabited houses, 1871.	Population, 1871.	Rateable annual value of property 1871.
Holy Trinity, Brompton ...	439	3,224	22,128	£246,716
St. John, Notting Hill and St. James, Norland ...	905	7,730	62,475	£365,012
St. Mary Abbots ...	846	4,781	35,696	£323,992
	<hr/> 2,190	<hr/> 15,735	<hr/> 120,299	<hr/> £935,720

THE SEVEN PRINCIPAL ZYMOTIC DISEASES.

WHOPING COUGH in point of fatality heads the list of the diseases of the Zymotic class, having caused 185 deaths in 1878, of which 164

* The projected division of the sub-district was not carried out; other arrangements for the convenience of the parishioners having been made.

belong to the Town registration sub-district, and 21 to Brompton. The victims of this malady are infants and young children; death, when it happens, being usually the result of some intercurrent complication, as disease of the breathing organs. It is scarcely too much to say that many deaths from whooping cough are "preventible"—the fatal complication, *e.g.*, pneumonia, bronchitis, &c., being due to exposure of the patient. It is a good rule to confine children to the house, and indeed to one room, during the more acute stages of whooping cough, but in the homes of the poor it is often found quite impracticable to do so. The children of the poor furnish a large proportion of the fatal cases; and it is observable that scarcely more than one death in nine occurred in the Brompton registration sub-district, which is largely inhabited by the wealthier part of the community; children moreover being relatively fewer in number in this sub-district.

DIARRHŒA comes next after whooping-cough in the order of fatality, having been the cause of 181 deaths, of which only one-ninth (20) occurred in the Brompton registration sub-district. Diarrhœa as a factor in the mortality returns is an infantile disease, and a disease peculiar to hot weather, the time of year at which it prevails in its most fatal form being determined by the temperature. Heat appears to be a direct exciting cause of the malady, and it has been noticed that diarrhœa is always fatally prevalent when the Thames water attains a temperature much above 60° Fahr. The Registrar-General in his 29th "Weekly Return" (July 20), referring to this subject, said—"The Thames temperature which had been 60° rose in the last week of June to 65°, in the three following weeks it was 68°, 66°, and 67°. The weekly deaths from diarrhœa and simple cholera, which had been 13, rose to 78, 156, 156, and 349 in the corresponding weeks." He added the following significant remark:—"The deaths from diarrhœa are differently distributed in the fields of the water companies; thus the deaths in the last four weeks were 786 in the districts supplied with Thames and Lea waters, whereas the deaths in the districts supplied with water drawn from the chalk by the Kent Company were 19. Out of the same population the deaths in the former were to the deaths in the latter as 3 to 1." It may be mentioned that the Kent Company's water, obtained from deep wells, attains a maximum temperature of about 58° Fahr. only, and has a range of about 13° Fahr., whereas the river

waters have a range of double that extent. Other causes, however, contribute to the production of diarrhœa, among which may be cited artificial feeding. It is difficult to preserve milk from undergoing change in hot weather, and the heat, which generally "turns the milk" acid, simply, not seldom in the close atmosphere of crowded rooms, is the cause of a putrid change. No doubt want of attention to the condition of the feeding bottle is also an important factor in the chain of causation, as the slightest collection of sour matter in any part of the apparatus leads to speedy change in the milk. Not uncommonly, moreover, ignorant mothers allow the milk to remain in the bottle in the hot bed, till it is wanted: or feed their children on farinaceous and other indigestible foods, which disorder the bowels and almost infallibly cause diarrhœa. The disease, once set up in young infants at this season of the year, is apt to prove intractable, more especially when the cause to which it is due continues in operation. The disease, again, is at first thought too lightly of, and in many instances medical aid is not sought until the patient has become so much reduced as to be beyond the power of restoration under the circumstances in which the children of the poor are brought up; and I say the children of the poor, because it is among the children of the poorer classes that the disease prevails in its most fatal form.

SCARLET FEVER.—The deaths from scarlet fever 77, viz., 8 in Brompton, 62 in the Town sub-district, and 7 in the hospitals, were below the average. The disease seems to have assumed a tolerably mild form, as a rule, throughout the year; but two or three groups of severe and fatal cases in single houses occurred, amply illustrating the danger poor persons incur by keeping cases of scarlet fever at their homes where it is impossible to isolate them. It is often done because the individual case is mild (it is then called *Scarlatina*, which is only *Scarlet Fever* put into Latin); but it cannot be too generally known that the mildest cases frequently prove the most serious in the long run, because, owing possibly to want of care during convalescence, they are often followed by those *sequelæ*—kidney disease, dropsy, &c., by which life is ultimately cut short after a more or less prolonged period of illness and suffering. Many an adult succumbs in what should be the prime of life to "Bright's disease," the foundation of which had been laid in a "mild" attack of *Scarlatina*.

The mildest case, moreover, is a source of danger to all, children especially, who come within the area of its infective power, being capable of conveying the disease in its worst form. Great obstacles, however, are experienced in persuading parents to allow their children to go to the hospital when suffering from scarlet fever, though such removal is, on an average of years, more necessary for the security of the public than the removal of cases of small-pox. The disease, however, is not so loathsome to look upon as small-pox, and from its comparative frequency does not inspire the same dread.

DIPHTHERIA.—The deaths from this disease (20) were above the average, and all occurred in the Town sub-district. In more than one case the disease was imported. The victims were mostly young children.

MEASLES.—The deaths from measles, 54 in 1877, were 53 in 1878, the uncorrected decennial average being 65. Only three of the deaths were in the Brompton sub-district.

FEVER.—The deaths grouped by the Registrar-General under the common heading, "Fever," are due to one of three several diseases, viz., Simple Continued fever, Enteric (or Typhoid) fever, and Typhus fever. The deaths last year, as registered, were 31, the uncorrected decennial average being 41.

TYPHUS FEVER.—Three deaths were registered from this cause,—all in the Town sub-district: there was good reason, however, for questioning the accuracy of the diagnosis. I entered fully into this subject in respect of two of the cases in my last Annual Report (page 10), the deaths having occurred at the beginning of the year; it only remains now, therefore, to notice the third case; that of a child aged three years, the patient of an unregistered practitioner. I thoroughly investigated this case, with the result of assuring myself that, whatever may have been the nature of the fatal disease, it was not typhus. It may have been enteric fever, but more probably it was a case of tuberculosis, ending with convulsions. There had been no previous case in the house, and there was no subsequent case; nor was there anything in the condition of the house or family to account for the occurrence of

typhus fever; no reference to this disease, moreover, having been made by the practitioner during the continuance of the illness.

ENTERIC FEVER.—Twenty-four deaths were registered from this disease, of which 10 occurred in Brompton, a large and unusual mortality for that sub-district. I dealt fully with the subject of enteric fever in my last annual report (page 11), in connection with a sharp endemic, which, commencing in November, 1877, was prolonged until the end of January, 1878, and caused eight deaths at home or in hospital. The localities at which fatal cases occurred are shown in Table 9 (Appendix). I am not able to throw much light on these cases, *qua* causation. A few, however, certainly six, were imported, and in one or two others there appeared reason to doubt the validity of the diagnosis; as, to quote but one example, in the case of a lady whose death was attributed to “disease of the valves of heart, three years; typhoid fever, 56 days; acute pulmonary phthisis, 40 days,” the case probably being an instance of that sharp febrile disturbance, associated with acute tuberculosis, which is occasionally mistaken for specific fever.

SIMPLE CONTINUED FEVER.—The deaths from this disease were four in number, of which one occurred in the Brompton sub-district.

SMALL-POX.

SMALL-POX, which began to be epidemic at the close of 1876 is still, at the middle of 1879, more or less prevalent in the Metropolis generally, and in some parts of the parish; our efforts to cope with the disease and to stamp it out not having had the success they deserved, seeing how much time and labour has been consumed in the endeavour. This is not to be wondered at, however, the migration of families in which the disease makes its appearance, and the concealment of cases, amply accounting for its spread in the parish, and from one parish to another. The force of the epidemic has been very unequal, and sometimes we have been deluded with the hope that it was about to cease, a hope again and again dashed by the occurrence of fresh and unlooked-for outbreaks. The fluctuations of the disease, and the relative prevalence of it in the parts of the parish north and south of the Uxbridge Road;

l between November, 1876, and the end of June, 1879, are shown the subjoined table (compiled from my Monthly Reports):—

Date of the Monthly Report.	No. of Cases Reported.	No. of Cases under 15 years of age	Ditto over 15	No. of Cases		Sent to Hospital	Treated at home
				North of Uxbridge	South of Road.		
376. No. 10. Nov. 15	13	5	8	12	1	4	9
14. Dec. 13	36	14	22	22	14	28	8
377. 15. Jan. 10	40	20	20	24	16	30	10
1. Feb. 7	43	14	29	34	9	24	19
2. Mar. 7	26	12	14	24	2	15	11
3. April 4	24	7	17	22	2	18	6
4. May 2	39	17	22	32	7	23	16
5. „ 30	43	21	22	38	5	29	14
6. June 27	50	20	30	28	22	40	10
7. July 25	43	21	22	25	18	38	5
8. Aug. 22	39	10	29	17	22	32	7
9. Sept. 19	12	3	9	7	5	9	3
10. Oct. 17	19	16	3	7	12	12	7
11. Nov. 14	11	4	7	4	7	8	3
12. Dec. 12	5	1	4	1	4	3	2
13. (to) 31	5	0	5	1	4	4	1
378. 1. Feb. 6	8	3	5	6	2	7	1
3. Mar. 5	10	1	9	5	5	10	—
4. April 3	16	2	14	6	10	15	1
5. May 1	57	8	49	7	50	47	10
6. „ 29	55	23	32	21	34	35	20
8. June 26	23	8	15	7	16	18	5
9. July 24	6	2	4	—	6	4	2
10. Aug. 21	1	—	1	—	1	1	—
11. Sept. 18	—	—	—	—	—	—	—
12. Oct. 16	—	—	—	—	—	—	—
13. Nov. 13	1	—	1	1	—	1	—
14. Dec. 11	—	—	—	—	—	—	—
15. Dec. 28	2	—	2	—	2	1	1
379. 1. Feb. 5	7	1	6	—	7	2	5
2. Mar. 5	11	2	9	2	9	9	2
3. April 2	28	3	25	13	15	18	10
4. „ 30	27	4	22	—	27	25	2
5. May 28	10	1	9	2	8	7	3
6. June 25	28	8	20	2	26	24	4
Totals	738	251	487	370	368	541	197

The cases recorded between June 26th, 1878, and June 25th, 1879, are 121 only, as compared with 303, in the previous twelve

months. Of these 121 cases, 20 occurred North and 101 South of the Uxbridge Road : 21 were under, and 100 were over, 15 years of age ; 92 of the sufferers were removed to Hospitals and 29 were treated at home. The disease made its appearance in 93 streets and in 108 houses. The deaths in the registration year 1878 were 24, viz., 8 at the homes of the sick (3 in the Town sub-district and 5 in Brompton) and 16 at the Hospitals. During the present epidemic, as in the previous one in 1871-2, which was of shorter duration, the prevalence of the disease was mainly confined to the northern parts of the parish in the first instance, and subsequently to the southern parts. It has persisted for a longer period in the south during the present epidemic, and I am bound to believe that it has done so owing to the re-introduction of infection from adjoining parishes, especially Fulham, where according to the report of the Medical Officer of Health, very many cases have been concealed and kept at home. Some cases no doubt are so effectually concealed that we never hear of them at all, and in other instances the presence of the disease is made known only on the registration of a death. In a case of recent occurrence an outbreak was concealed for some time by the suppression of the "primary disease" in a medical certificate of the cause of death ; a death really due to small-pox, having been attributed to the secondary cause only, viz., congestion of the lungs. In a few instances the first case in a family was of so trivial a nature as to have been mistaken for chicken-pox, the mistake not being discovered until too late to prevent the spread of the disease, nor in fact until the occurrence of second cases (one or two of them fatal) left no room for doubt. In several instances there was exposure of the sick in public places and in public conveyances—but with what evil consequences can only be surmised. On the whole we have not much reason to be dissatisfied with the amount of success that has attended our efforts to get the sick removed to hospitals ; though objections have been raised in a few instances, sometimes because the case was of so trifling a character, and sometimes because of the severity of the illness. It is not easy to say which class of cases does the greater public harm, the lighter in which it is difficult to keep the "sick" at home for the period requisite for complete recovery, so as to prevent them from spreading the disease ; or the more severe in which a large amount of infective matter is thrown off by the skin, lungs, &c., to the great danger of the other inmates of the house.

FULHAM HOSPITAL.

About 139 cases of small-pox were removed to the hospitals of the Managers of the Metropolitan Asylum's Board during the year, of which 5 went to Hampstead, 2 to Stockwell, and 132 to Fulham. The question, Whether the latter hospital is a source of direct infection, and, therefore, a danger to the locality in which it is situated? has from time to time been debated as warmly as ever. I say "from time to time," because when an outbreak of small-pox occurs in the district the question is debated: and when the disease is absent from the district nothing is heard about the matter, though the hospital may have been steadily continuing its career of usefulness. Debated, moreover, I am bound to add, without any evidence having as yet been produced to support the indictment against the hospital, and without any reference to the value of the hospital as a place of safe isolation for the sick. "There are cases of small-pox in the district the origin of which we don't know: there is a small-pox hospital not half-a-mile away: therefore the spread of the disease must be due to the hospital;"—is a not unfair exposition of the "reasoning" on which the hospital has been condemned (in all sincerity I believe) by many persons. But the mode of spread of the disease is not often mysterious to those who, being brought daily into contact with the sick, have opportunities of tracing cases to their origin; and although cases have occurred of which the origin has not been traced, the cases are so numerous in which the course of infection has been tracked, from house to house, to the primary case in a given group, as to satisfy well-informed persons that the comparatively few cases in which the source of infection has not been traced would, in all probability, if the facts were known, admit of an equally rational explanation. Speaking from experience, I am able to say that it is often a difficult matter to extract the truth with respect to the previous movements of the sufferers. Actual untruth in some cases, a withholding of facts in others, is too common. In many a case where the Sanitary Inspector, under the heading in his report book, "supposed origin of the infection," has been obliged to write "unknown," the apparent mystery has received quick and satisfactory solution as the result of enquiries made under more favourable circumstances in the hospital itself. The able and

courteous Medical Superintendent has acquainted me with many illustrations of this fact; but, as he intends to publish his experience shortly, it would not be fair to detract from the interest of his work by any partial and imperfect statement in this place.

I may mention, however, that the recurrence of the Easter festival having brought its thousands of holiday-makers into the immediate vicinity of the hospital, viz., at Lillie Bridge and Stamford Bridge running grounds, the opportunity was deemed a good one for endeavouring to ascertain what basis, if any, there might be for suspicion against the hospital; and, accordingly, I wrote a letter in the following terms to the *Lancet* and the *British Medical Journal*, and it was inserted conspicuously in both papers on the 26th April.

"The question whether the Small-Pox Hospital at Fulham may not be a danger to the locality by *direct* infection, still agitating the public mind, I have been requested by the Kensington Vestry to ask you to permit me to draw the attention of the profession to the fact that, on the 4th, 5th, 11th, 14th, and 15th days of April, many thousands of people were congregated in the immediate vicinity of the hospital, viz., at the Lillie Bridge or at the Stamford Bridge running-grounds. The Vestry are of opinion that, if there be any basis for the belief that the hospital is a source of danger to the public by direct infection, the fact should become manifest on such occasions as those referred to. They appeal, therefore, to medical men in town and country, for detailed information should cases of small-pox come under their notice, which, due regard being had to the known period of incubation, may be reasonably supposed to have originated from infection on the dates and at the places named."

To this letter I did not receive one reply.

A fresh outbreak occurred at Brompton at the end of 1878, corresponding with a general recrudescence of the disease throughout the Metropolis, as shown by the cases admitted into the Hospitals; the local prevalence of the disease, however, being explained by the existence of numerous unguarded centres of infection at that very time.

As will be seen by reference to the previous table, there had been only one known case of the disease, and that in the north of the

parish, during a period of three or four months, viz., from August to November, 1878. But, in December, a concealed and fatal case occurred at Seymour Place, Fulham Road. Between that date and the end of January, 1879, eight other cases occurred, and of these five were treated at home, one at Pelham Street (fatal), three at Richmond Road (two of them fatal), and one at Ifield Road (also fatal). Thus, to say nothing of "concealed" cases of which we subsequently obtained information (there were two consecutive cases in one room at Sumner Mews, the continuance of the disease extending over many weeks), we had six local centres of infection at the very commencement of the fresh outbreak—at a time moreover, when for many weeks we had flattered ourselves that our efforts to eradicate the disease had at last been crowned with success. It happened moreover, as it nearly always does when an epidemic disease first breaks out, that the first cases were not reported. Unless death ensues weeks may elapse before an epidemic disease is known to exist. Such was the case at the beginning of this great epidemic at Islington in 1876, and such was the case at the beginning of the last outbreak in Brompton, which is still progressing. So soon as we knew that the disease had re-appeared in the parish our efforts were again directed to the isolation of the sick in hospital, not with complete success at any time, and least of all at first, and thus the disease got a good hold in the district. As soon as cases began to flow freely into the hospital persons aware of that fact, but ignorant of what had gone before, jumped to the conclusion that the hospital—our greatest ally in measures for coping with the epidemic, was in fact the means by which the disease was originated and spread.

In my second report for 1879 (dated March 5th), I recorded eleven cases—including the two at Sumner Mews referred to above as having been concealed, until our services were required for the disinfection of the sick room. The remaining nine cases were removed to the hospital after more or less loss of time, due to delay in diagnosis or in reporting the cases, but they had established several other centres of infection. In the third report (dated April 2nd), 28 cases were recorded, of which 15 occurred in the south district: and in the fourth report (April 30th), 27 cases, all in the South district. In the fifth report (May 28th) the known cases fell to 10, eight in the

south district, and in the sixth report (June 25th) the last report that will be referred to here, the cases rose again to 28, of which 25 were in the south district.

The streets that successively became infected were the following:—Moreton Gardens, Childs Place, Adrian Terrace, Redcliffe Street, Shaftesbury Terrace, Kramer Mews, Ifield Road, Finborough Road, Fenelon Road, Redcliffe Mews, Tregunter Road, Yeoman's Row, Pembroke Square, Redcliffe Gardens, Warwick Terrace, Cathcart Road, Ashley Cottages, Queen's Gate Gardens, Redcliffe Square, Glos'ter Road, Coleherne Road, Cromwell Road, Earl's Court Road, &c., &c.

It will be apparent to those who know the district, that many of the above streets are far away from the hospital, and are separated from it by other streets in which, so far as we know, the disease has not made its appearance.

One remarkable fact must not be overlooked, viz., the frequency of the instances in which a female domestic servant was the only person ill in a house. In the great majority of instances there was but one case in a house, and in a considerable number of these, the single sufferer was a servant; in most of such cases, moreover, the symptoms first showed themselves on or very near Sunday, at a period when they would have been expected to develop, on the assumption that the disease had been contracted on the previous Sunday week when the sufferer was enjoying her "Sunday out." In one month alone out of a total of 27 cases—one to a house—no fewer than 12 were of female domestic servants. Granting the hospital to have been the source of infection in these cases, by what law of selection can it be explained, how it happened that one only of several servants, and no other member of the household should have been stricken? The opponents of the hospital have not hitherto offered an explanation of the fact, but we know that in many of these instances, the disease has been traced to exposure to infection at the homes of the sufferers. Artizans and labourers came next in order of frequency as the victims in the recent outbreak. The number of children attacked was relatively small, as it has always been, within my experience, in the Brompton district.

The comparative freedom of the northern parts of the parish from the disease, during the progress of the epidemic in the first half of the current year, has been somewhat remarkable. There were six cases in one house,—one died at home, the others were removed; there were

several cases in another house, of whom one died in hospital, and the others were well isolated at home. The remaining cases, few in number, were single cases. It seemed as if the disease had no particular tendency to spread in the district, which, earlier in the epidemic, when Brompton was free, had been severely stricken, and where re-vaccination had been practised to a relatively large extent.

I shall conclude my remarks on this subject with a brief resumé of some of the work, &c., of Fulham Hospital during 1878, as set out in Dr. Makuna's annual report. On the first day of the year there were 15 convalescent patients remaining under treatment, transferred from the Stockwell Hospital. On the 6th January, a sick man walked in from Fulham, and on the 25th the hospital was re-opened for acute cases. By the 21st February the number of patients had reached 156, and on April 21st there were 252 cases, the maximum number since the opening of the hospital in March, 1877. By the end of May—the admissions had become fewer week by week—the number had declined to 187; on July 21st there were 72 cases, and on the 28th September only 3. Between the 28th September and the 31st December the number rose slowly to 20. Here we see the first flow of the wave, the full force of which has hardly been expended yet, though from time to time it has seemed about to ebb. And it corresponds with that new outbreak in the Brompton district, of which it was the evidence and the outward sign; and not, as some imagine, the cause. The number of patients in the hospital is seen to rise and fall just as the cases out of doors increase or diminish. If the timid and the ignorant (using the term in no unbecoming sense) will invert the order of occurrence of the events we can but regret it, and endeavour with how little soever of success to set them right.

There were 1,109 admissions in all during the year, of which 766 were acute cases, and 343 were convalescents transferred from Hampstead and Stockwell. There were 134 deaths; 20 cases remained under treatment at the end of the year, and 970 persons had been discharged. There were 121 deaths out of 727 completed cases, equal to 16·64 per cent. Of 569 vaccinated persons 48 died, or 8·43 per cent. Of 158 unvaccinated persons 73 died, or 46·20 per cent. Fifty-five children under five years were admitted, 21 had been vaccinated and 34 had not. Only one of the vaccinated children

died, a boy who had six 'indifferent' marks of vaccination; but on admission he was emaciated, ill-fed, had sore eyes, and he suffered from lung disease. Nineteen of the un-vaccinated children died, or 55·88 per cent. Seventy-five of the 399 male patients died (=18·48 per cent.), and 46 of the 328 female patients (10·97 per cent.) The average period of the illness in hospital of the fatal cases was 7·73 days, but four of the patients died within 24 hours after their admission, 11 within 48 hours, and 10 within 72 hours. The average stay in hospital of un-vaccinated persons was 52 days; of vaccinated persons with good marks, 35 days; ditto with traces of marks, 41 days.

Among the cases there were admitted from

Fulham	191	of whom	42	were unvaccinated.
Kensington	132	„	19	„
Chelsea	116	„	27	„
Wandsworth and Clapham ...	90	„	28	„
St. George's, Hanover Square	76	„	14	„

Of 34 unvaccinated children Fulham supplied 11, Chelsea 10, St. George's 4, and Wandsworth 4, and Kensington 1.

These statistics must be regarded as relatively favourable in respect of our own parish, *qua* vaccination. The percentage of deaths of children was 36·36. Above five years it was 43·54 per cent. of unvaccinated cases, and 8·57 of the vaccinated.

Of the sick who had "good marks" of vaccination 1·24 per cent. died. Of those with "indifferent marks" 5·53 per cent. died. Of those with "traces of marks" 20·96 per cent. died, while among the "unvaccinated" the mortality was 46·20 per cent. So much for the *quality* of the vaccination; the influence of *quantity* is shown by the fact that the per centage of deaths where there was

1 mark	was	16·83	per cent.
2 marks	„	6·79	„
3 „	„	6·25	„
4 „	„	6·52	„
5 „	„	6·25	„

In all vaccinated cases 9·53

Persons who have been thoroughly vaccinated are described as "vaccinized." There were 22 such cases—12 above 16 years of age;

four of these cases were hardly to be called small-pox, so trivial were the symptoms, and 19 out of the 24 required no treatment. Since the opening of the hospitals in 1877 there have been employed on the staff 157 officers, nurses, servants, and porters, of whom 23 had previously had small-pox. One house servant, whose word was taken for her re-vaccination, contracted the disease. Of 133 who were re-vaccinated two only suffered from small-pox, and that in a very mild form.

The report by the Medical Superintendent contains much further interesting matter to repay perusal, but for which I cannot find room here. I shall only add that the Hospital "Pavilions" are single-story buildings, well ventilated, with abundant light and air, being surrounded by nicely laid-out gardens. The hospital site has an area of $6\frac{1}{2}$ acres.

"THE HAMPSTEAD SMALL-POX HOSPITAL CASE."

The opposition to the continued existence of Fulham Small-Pox Hospital was not a little stimulated by the apparently successful result of the action brought by Sir Rowland Hill and others against the Managers of the Metropolitan Asylums Board, in respect of the Hampstead Hospital—the verdict having been adverse to the Managers on all points. Mr. Baron Pollock, who tried the cause, left the following questions to the jury:—1. Was the hospital a nuisance occasioning damage to the plaintiffs, *per se*? 2. Was the hospital a nuisance *per se*, or by reason of patients coming to or going from the hospital? 3. Assuming that the defendants were by law entitled to erect and carry on a hospital, did they do so with all proper reasonable care and skill with reference to the plaintiffs' rights? 4. Assuming that the defendants were by law entitled to erect and carry on this particular hospital, did they do so with all proper reasonable care and skill with reference to the plaintiffs' rights? 5. Did the defendants use proper care and skill with respect to the ambulances? And on all these questions the verdict was adverse to the defendants, though the jury admitted that everything had been done that could have been done relating to the internal management of the hospital.

It would be difficult to exaggerate the mischief that might ensue to the prejudice of the public health if this verdict should stand ; and as the verdict appeared to be against the weight of evidence, as it certainly is contrary to public policy, I ventured to express a hope, at the time, that it might be reversed on a new trial.

An application was in due course made for a new trial, and gave rise to a long and able argument before the Court of Queen's Bench, with the result that, subject to the decision of the Court of Appeal on certain legal questions, the rule for a new trial was made absolute, the Lord Chief Justice, moreover, having laid down the questions that are to be submitted to the jury.

HOSPITAL ACCOMMODATION FOR CASES OF INFECTIOUS DISEASE.

The subject of hospital accommodation for persons suffering from infectious diseases has engaged a good deal of attention during the year having at length, as I stated in my last annual report, been taken up by many of the Nuisance Authorities of the Metropolis acting in concert ; but no satisfactory solution of the difficulties by which it is beset has hitherto been arrived at. The Limehouse District Board of Works, which has honorably distinguished itself by the part it has taken in endeavouring to bring about a settlement, invited the Vestries and District Boards to appoint delegates to confer on the subject, and several meetings were held ; your Vestry having been one of the authorities represented at the conference. Indeed it is not too much to say that the action that had been taken by your Vestry in past years, and with which the other Vestries, &c., appeared not to have been previously acquainted, had a very important influence on the proceedings of the conference, which practically gave effect to the views your Vestry had on several occasions enunciated, and had reaffirmed in a set of propositions framed for the guidance of your Vestry's delegates (*vide* Annual Report for 1877—page 22).

In my last annual report I detailed the proceedings of the conference down to July, 1878, set out the resolutions that had been adopted, and stated that the conference had been adjourned until the month of October. At the meeting held in October a great impetus was given to the proceedings by an excerpt from one of my monthly reports (No. 12,

1878. Oct. 16th—page 82, *et seq.*), which had been reprinted by order of your Vestry for the use of the delegates, and in which I had mentioned a case bearing on the hospital treatment of infectious diseases, that had cropped up in the Tower Hamlets Registration Court.

It appeared that—

“Sometime in March the child of a householder contracted small-pox, and that ‘the sanitary authority of the district insisted on her being removed to Homerton Hospital,’ which is legally a pauper establishment. On this ground one of the political parties—it boots not which, for the question is above party—objected to the man’s vote. It was contended on the one side that the ‘relief’ afforded to the man by the maintenance of his child in a hospital supported by the poor rate was ‘parochial’ relief; while on the other side it was contended that the fact of the removal of the child having been compulsory rendered the objection null. The opposing party, however, argued that poor relief, whether voluntary or compulsory, was still poor relief, and was, legally, fatal to the claim. The Revising Barrister at first held that there was a great distinction to be drawn between a man who of his own free will sought parish relief and one who had it forced on him against his will, as appeared to be the case here; but ultimately he decided that such relief was to all intents and purposes parochial relief, notwithstanding that it was afforded against the will of the recipient. But in order to disqualify the voter for the franchise, the Revising Barrister said it must be shown that parish relief had been afforded to a child under *sixteen* years of age, and evidence on this point was not before the court. He further held that the payment of the cost of the child’s maintenance from the district rate would not have been sufficient to disqualify the claimant, but that clear proof must be given that it came from the poor rate. He decided to retain the name of the claimant on the list.”*

It was generally felt by the delegates that the occurrence of the above case could not fail to have a good effect in furthering the object

* It appeared subsequently that the child was *eight* years of age only, and that the expense of her maintenance was borne by the Guardians out of the poor rate. The householder therefore saved his vote, not on the merits of the case, but simply owing to the failure on the part of the objector to produce the evidence which was necessary in order to his disqualification.

the conference had in view, by calling attention to a practical injustice in the working of an otherwise beneficent Act (The Metropolitan Poor Act, 1867); and that Parliament could scarcely do otherwise than remove an anomaly that had been so glaringly illustrated.

At this third meeting of the Conference, the Resolutions adopted were as follow :—

- (1.) "That a memorial be prepared and presented to the Home Secretary, in accordance with the terms of the resolution passed at the last meeting of the Conference ;" and
- (2.) "That a Committee be appointed to prepare such memorial, and arrange for its presentation by a deputation."

Referring to these resolutions, I ventured in my Report for Nov. 13th (No. 13, page 95), to express my hope that the right hon. gentleman, should he consent to receive the deputation (the question belonging to the Local Government Board) would have his attention called to the necessity of depauperising the "relief" afforded in the "infectious diseases hospitals," by a short Act or a clause, framed on the model of the 26th section of the Vaccination Act (30 and 31 Vic. cap. 84) in some such words as these :—"It is hereby declared that the surgical or "medical assistance and the maintenance incident to the treatment of any "person in a union or parish, hereafter removed to a hospital provided "for the isolation and treatment of persons suffering from any infectious diseases, shall not be considered to be parochial relief or charitable allowance to such person, or his parent, and no such person or his "parent shall by reason thereof be deprived of any right or privilege, "or be subject to any disability or disqualification : "and I further expressed my belief that it would be sound policy to make no distinction of persons in a matter of this kind, and not to compel any one to pay for the assistance afforded by the hospital. Accommodation of a superior or more private character might be provided for persons who are able and willing to pay, at the "London Small-pox Hospital" and the "London Fever Hospital."

In March this year, a large and influential deputation waited on the President of the Local Government Board ; the Home Secretary having, as I anticipated, referred the Committee to Mr. Selater Booth.

Mr. Lindsay, a member of your Vestry, had been chosen by the Delegates to give expression to their views ; the main object of the Conference, as it ultimately took shape, being to induce the Govern-

ment to obtain Parliamentary powers to enable local sanitary authorities and the Managers of the Metropolitan Asylums Board, to enter into contracts for the treatment of non-pauper cases of infectious disease at the hospitals of the Managers. The President intimated his willingness to do this during the current session, in a Poor-Law Amendment Bill*; but he reminded the deputation that what they had now asked him to do he had endeavoured to do in 1877, viz., in the "Public Health (Metropolis) Bill," which was defeated by the opposition of the Vestries and District Boards of Works. The President expressed his opinion that admission into the hospitals should not entail loss of political status on the recipients of relief, but that their franchise should be saved by their paying for their maintenance, &c., while in the hospital. To this view I venture to express my dissent; but I have so frequently expressed my conviction of the injustice of compelling or persuading sick people to go into the hospital to ensure their isolation for the protection of the public, and then making them pay for the "relief" so afforded; and your Vestry have so fully endorsed my views, that I need do no more now than refer to the subject. I may just mention in passing, however, that if the Vestries had power conferred on them to contract with the Managers, under section 37 of The Sanitary Act, 1866, the charges for the patients sent into the hospitals by the Vestries would be borne upon the general rate, and the recipients of "relief" thus afforded would not be pauperised. No doubt power will be given to the Vestries, &c., to recover from the persons so relieved the cost of their maintenance and treatment in the hospitals: presumably, however, this power will be exercised with discretion so as not to endanger the success of efforts to stamp out disease by the isolation of the sick in the hospitals.

The President referred to the possibility of there being established at some future time a "Common Sanitary Fund" for the Metropolis, and I entertain no doubt that this plan, which, as your Vestry are aware, I have also long advocated, furnishes the most hopeful prospect of a successful issue to our efforts to make proper provision for dealing effectually with the treatment of infectious diseases.

I venture to think much good will ultimately come of the labours of the Conference, and that common action on the part of the Vestries will tend to smooth away the difficulties which at present beset the subject.

* Vide APPENDIX, page 81, for some account of "The Poor Law Act, 1879," by which Mr. Sclater Booth has redeemed the promise made to the Deputation.

In looking forward to a new system, however, I would wish to bear my testimony to the efficiency of the present system, so far as it has been illustrated in this parish, and it affords me pleasure to state that owing to the cordial support your Vestry's officers have received from the Guardians and their officers, no difficulty has been experienced of late years in obtaining the removal of suitable cases to the hospitals. Indeed I am not sure that any system is likely to surpass the present one in convenience, for the organization of the Poor-Law service, with a relieving officer and a medical officer in every district of the parish has answered well in practice, and could only be improved, probably, by one modification, viz., by the acceptance of the certificate of any registered medical practitioner as evidence of the nature of an infectious disease—a step, whereby, in many cases, delay in removal would be avoided, and the District Poor-Law Medical Officer would be spared a needless visit to the bedside of the sick person. Should your Vestry be compelled to take up the work now so well done by the Poor-Law officials, it will probably be found necessary to appoint a special officer to perform the functions of the relieving officer, and I am confident it will be found necessary to receive the certificate of any duly qualified medical man as evidence of the nature of the disease.

It may reasonably be hoped that by the time we have a "Common Sanitary Fund" for the maintenance of the infectious sick, we shall also have a law to compel the disclosure of cases of infectious disease. When this reform shall have been achieved, and concealment can no longer be practised with impunity, we may hope to be able to combat diseases like small-pox and scarlet fever with more success than we can at present boast.

"DISQUALIFICATION BY MEDICAL RELIEF."

"The Tower Hamlets case" mentioned in the previous section, and to which I referred to in my Monthly Report for October 16th (No. 12, 1878, page 85), excited considerable stir—my report having been quoted and commented on in many influential organs of public opinion. And well it might, for the case brought us face to face at last with a contingency I had long foreseen, and against which your Vestry had endeavoured to provide. It added another difficulty, as I pointed out, to those which already beset us in our efforts to induce—or, as some would say, "compel"—people suffering from infectious

diseases to go into the hospitals. The task of *persuasion*—for that is the form of “*compulsion*” employed in ninety-nine cases out of the hundred—has always been a difficult one, and if to any other reasons that may disincline a man to go, or send his children, into an hospital, he should find himself liable to be branded as a “pauper,” and to be disfranchised for doing his duty towards his family and his neighbours, we may well tremble at the prospect before us, viz., of having to deal with infectious diseases in the crowded houses of the poor rather than in hospitals, where alone, as a rule, such cases can be securely isolated; for I do not think men would be willing to sacrifice their political rights even to secure gratuitous hospital treatment.

In some districts the “non-pauper” sick are removed by the sanitary authority, the expenses of maintenance being paid out of the district rate. In other districts, as in this parish, hundreds of cases have been removed by the Guardians, and the charges have been borne upon the poor rate. In every such case when the recipient of relief is a voter—whether as a householder or as a lodger—it is in the power of his political opponents to object to his vote in the Revising Barrister’s Court, and who shall say this will not be done now that attention has been drawn to the subject?

As the law stands there is only one way of meeting the difficulty, if it should be raised, viz., by an arrangement under which the sanitary authority should recoup the Guardians for their expenditure—by a payment, that is, from the district rate to the poor rate, or, as I have put it, by the transfer of money from one pocket to another!

The question having been raised, however, it should be settled in some way; and the only way, I believe, in which it can be equitably and permanently settled, is the way your Vestry have indicated—viz., by depauperising “relief” afforded in the infectious diseases hospitals.

To obviate the recurrence of such cases, a Bill was introduced into the House of Commons by Sir Charles Dilke, Mr. Rathbone, and other members. Your Vestry addressed the President of the Local Government Board in support of this Bill, petitioned the House of Lords in its favor, and invited the co-operation of the other Vestries and District Boards. The Society of Medical Officers of Health, at my instance, petitioned in favor of the Bill, and I myself submitted to the President of

the Local Government Board, as well as to the Lord President of the Council, and other Peers, a statement of the reasons for which I thought the Bill entitled to support. In the result, the Bill passed through the House of Commons, notwithstanding the opposition of the Government, but having been utterly ruined by amendments moved by the Duke of Richmond in Committee of the House of Lords, its promoters thought it best to abandon the measure lest by its presence in the Statute Book it should lead to a false notion that the question had been settled, and thus discourage legislation at a more favorable time.

It is not a little remarkable that, while both parties in the State appear agreed as to the necessity of protecting men against the consequences of *voluntary* exposure of themselves to *contagious* disease, viz., by locking up "unfortunate" women when in an infective state, and this at the public expense, neither party should be able to recognize the propriety of protecting the general public against *involuntary* exposure to infection from small-pox, &c., viz., by removing the restrictions against the free admission of poor persons into rate-supported hospitals, when such persons are willing to enter them for the sake of isolation. At the present moment, as already stated, no person having the electoral privilege, whether householder or lodger, can go, or send a child, into one of the hospitals of the Metropolitan Asylums Board, without incurring the risk of losing his franchise: should a political opponent think fit to object to his vote, it must be struck off the list.

But though such objection has only been made in one case hitherto, to my knowledge, and, though it is not very probable that such objections will ever be generally made, (if they were the hospitals would be little used, the infectious diseases would spread, and after a time a sensible modification of existing legislation would be effected!) yet any man, voter or otherwise, who avails himself of the hospital, even at the instance of the Sanitary Authority, and solely for the benefit of the community, thereby becomes, legally, a *pauper*. And yet the same man may have all his family vaccinated and re-vaccinated at the public cost, paid out of the poor rate, without incurring the stigma of pauperism, the sole object of such free vaccination being to protect the individual and the community, as far as possible, against the danger of small-pox!

When the public understand the bearings of this question judicious legislation must follow, and the hospital treatment of small-pox will be

put on the same footing as the operation of vaccination; for no rate-payer of ordinary intelligence would object to a trifling increase of his rates, practically inappreciable, to secure protection against infectious disease, unless he valued the health and the lives of his family less than the preservation of his property, which he insures against the contingency of destruction by fire by voluntary payments for insurance, in addition to a compulsory rate in support of a fire brigade.*

AMBULANCES.—The subject of ambulance-provision was raised in an effective way during the year by the publication of a Report by my colleague, the Medical Officer of Health for Paddington, in which he showed that in some districts many and serious irregularities exist in connection with the housing and the use of the vehicles employed for the conveyance of the infectious sick to the hospitals. The leading recommendation, however, contained in the Report did not meet with universal acceptance, for the Managers of the Metropolitan Asylums Board demurred to the proposition that they should supply the conveyances, the horses, and the drivers—first because they have no power to do as suggested, and secondly because the plan would lead to a large, and as they thought, unnecessary increase of expenditure. The remaining recommendations are substantially complied with in our parish, the Guardians of the Poor having provided separate and well-constructed carriages for small-pox and fever cases respectively; and the sick being placed in the charge of a paid attendant who lives at the workhouse, in special isolated quarters adjoining the ambulance sheds; he, moreover, being responsible for the cleanliness and disinfection of the vehicles.†

PREVENTION OF THE SPREAD OF INFECTIOUS DISEASES.

Is one of the chief duties appertaining to the office I hold; and it is one which constantly engages the attention of all the officers in my Department. A difficulty with which we have to contend is the want of information of the occurrence of non-fatal cases of illness; and it has been my constant endeavour to increase our sources of such information.

In "The Poor Law Act, 1879," the Government have made an attempt to deal with the question treated in this section (vide ADDENDUM, page 81).

† "The Poor Law Act, 1879," enables the Metropolitan Asylums Board to provide ambulances (vide ADDENDUM, page 82).

It may not be out of place to state here what progress has been made:—

1. By virtue of an arrangement entered into between your Vestry and the sub-district registrars of deaths, seven years ago. I duly receive notice of all deaths from the graver infectious diseases (small-pox, scarlet fever, diphtheria, typhus, enteric and simple continued fevers), within a few hours after they have been registered. It may be observed that when a death has occurred from an infectious disease there is always a probability of finding other cases of illness in the same house or in the locality, and such discovery not unfrequently results from the Sanitary Inspector's visit. Now and then the registration of a death has been unduly delayed—sometimes probably with the object of temporary concealment of the cause of death. It would be well if registration within a limited period, say twenty-four hours, were made compulsory.
2. The Relieving Officers, by direction of the Board of Guardians, report all cases of infectious diseases that come under their cognizance, and generally these are cases that have been, or are about to be, removed to the hospitals of the Metropolitan Asylums Board, admission to which (practically denied to no person) can only be obtained on the order of a relieving officer, or the master of a workhouse.
3. Similar information is given by the Resident Medical Officer of the Kensington Dispensary, by direction of the Committee of Management; but we seldom hear of sickness through any similar institution; and it is a matter of regret that many cases that ought to be removed to the hospitals are kept at home, and treated by medical men attached to so-called “provident dispensaries.”
4. Medical men favour me occasionally with information of cases, and more especially when they desire assistance in order to get the sufferers (*e.g.*, domestic servants) removed to hospitals.
5. In my last annual report I referred to what I thought to be a somewhat important step in advance that had then lately been effected by the action of the London School Board, which at my request, had instructed the Superintendents of Divisions through-

out the Metropolis to desire the "Visitors" to report to the several Medical Officers of Health any cases of infectious disease that might come to their knowledge in the discharge of their official duties, which take them constantly into the homes of the poorer classes. To facilitate the transmission of this information by the "Visitors," your Vestry authorised me to prepare a form for their use, which has been done. I must say, however, that hitherto the resolution of the Board has not been attended with the hoped for results, very few cases having been reported, and those a long time back.

6. Clergymen and District Visitors not unfrequently report cases of sickness.
7. The Resident Medical Officers of St. George's and St. Mary's Hospitals have, on many occasions reported the admission of cases, or the application of inadmissible cases of illness from houses in this parish.
8. Occasionally anonymous communications are the source of information, for I have not felt at liberty to disregard such communications, which have generally proved accurate.

In one or other of these several ways cases come to our knowledge; but, all told, they form only a small percentage of total cases, as proved by the fact that the great majority of fatal cases remain unknown till after registration of death—a fact from which it is a fair inference that a still larger proportion of non-fatal cases never come to our knowledge at all.

The only remedy for this regrettable state of affairs is legislation to ensure the compulsory disclosure of the occurrence of infectious diseases. The only question among sanitarians is, Who should be the informant? As a rule the information will have to come, directly or indirectly, from medical men. In those cases, and they are not few, where either no medical aid is sought, or where unregistered practitioners are employed, the information, if supplied at all, must come from the head of the family or from the "occupier" of the house. Where there is a duly qualified medical man in attendance it would suffice to require that he should give a certificate showing the nature of the complaint which it should then be the duty of the head of the family, or the occupier of the house, to forward without delay to the sanitary

authority, as is done now in respect of the medical certificate of the cause of death for registration. This is the plan recommended by the Society of Medical Officers of Health, and it is I believe the course adopted in those boroughs where under *Local Acts*, the disclosure of such cases has already been enforced. Having regard to the relations of doctor and patient, it is useless to expect that the desired information will be at all generally given by medical men until it is made their duty as law-abiding citizens, to supply it; and even then the exaction should be made as little onerous as possible, whether or not the public service thus rendered by the giving of such certificates is recognized by the payment of a suitable fee.

POPULATION, INHABITED HOUSES, &c.

The population of the parish estimated to the 1st of July, 1878, was 153,600, the increase for the year being 2,600, viz., 1,500 the natural growth, representing the excess of births over deaths; the remaining 1,100 being due to immigration. The estimate of population is based on the number of inhabited houses (19,719—an increase of 389 in the year) multiplied by the average number of persons per house (7·8), ascertained at the last census.

It is almost impossible eight years after a census, and in a parish which is growing rapidly, though irregularly, to estimate with accuracy the population of the several registration sub-districts, or the relative number of the sexes, but, subject to correction at a future date, I shall assume the population of "Kensington Town" sub-district to be 114,100, and that of "Brompton" 39,500; also that the males (whole parish) number 62,520, and the females 91,030—an excess of the gentler sex of not less than 28,530. The subjoined table shows the relative numbers of the sexes, in groups of ages, at the census, 1871.

AGES OF MALES AND FEMALES, 1871.

All Ages.	Under 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to 95	95 and upwds.
Males, 48977	7065	10198	8948	8317	5963	4339	2464	1270	378	33	2
Females, 71322	7147	11527	16585	14203	9080	6241	3768	2000	667	97	7
Total, 120299	14212	21725	25533	22520	15043	10580	6232	3270	1045	130	9

The numerical preponderance of the female sex may be accounted for by the concurrence of a variety of causes, including (1) the large proportion of female domestic servants in the population; probably not less than ten per cent.; (2) numerous girls' schools; (3) popularity of the parish as a place of residence with unmarried ladies, widows, &c., and (4), the superior longevity of women.

The density of the population is about 70 persons per acre, making no allowance for ground uncovered by buildings, the extent of which I am not able to estimate with accuracy.* But independently of open spaces like Holland Park and the cemeteries at Brompton and Kensal Green, there is still a considerable amount of land available for building purposes, especially at Notting Hill.

The subjoined table exhibits at a glance some of the evidences of the growth of Kensington during the present century :—

The Year.	Population.	Rateable value of Property.	The Year.
1801	8,556	£75,916	1823
1821	14,428	93,397	1833
1841	26,834	142,772	1843
1851	44,053	257,103	1853
1861	70,108	375,833	1860
1871	120,299	590,711	1865
1876	148,000	817,326	1876
1879 (July)	156,200	1,379,196 (April)	1879

MARRIAGES.

The number of marriages celebrated in 1878 was 1,331, viz.—

By the Church	1,084
At Roman Catholic places of worship	76
An Nonconformist „ „	64
At the Superintendent-Registrar's office	107

Total 1,331

The marriage rate (*i.e.*, number of persons married to 1,000 population) was 17·3. The marriage rate in England and Wales in 1877, was 15·8, the lowest rate since 1847, about the time of the Irish famine. The gross number of marriages in Kensington increased from 1,131 in 1871 (when the population was 121,500) to 1,417 in 1876, (estimated population 148,000). The number fell in 1877 to 1,411, and in 1878 to 1,331, though in the latter year the population had increased to 153,600; striking evidence of the much complained-of commercial depression.

BIRTHS AND BIRTH-RATE.

Four thousand six hundred and seven births were registered in 1878, (males 2,320, and females 2,287): in the Town sub-district, 3,719, and

In the "Report of the Vestry" the uncovered land is put at 330 acres.

in Brompton, 888. The birth-rate (whole parish) was 30 per 1,000, as compared with a Metropolitan rate of 33·2 per 1,000. The rate in the Brompton sub-district was only 22·4, that in the Town sub-district being 32·5 per 1,000. There was one birth to 33·3 persons living; the males born were as 101·5 to 100 females, the relative per-centage of births being, males 50·5, females 49·5. The illegitimate births, were 220 in number, or 4·3 per cent. of total births. Of the illegitimate births, 192 took place in the Town sub-district, which includes the parish workhouse. At this institution out of 119 births 89 were of illegitimate children.

The decennial birth-rate in Kensington (1868-77) was 31·9 per 1,000.

The subjoined table shows the quarterly number of births of each sex registered :—

KENSINGTON TOWN				BROMPTON			Grand Total.
1st Quarter	Sub-District.			Sub-District.			
	Males.	Females.	Total.	Males.	Females.	Total.	
1st Quarter	513	503	1016	128	122	250	1266
2nd „	468	450	918	105	129	234	1152
3rd „	477	446	923	104	102	206	1129
4th „	437	425	862	88	110	198	1060
Total...	1,895	1,824	3,719	425	463	888	4,607

The regular decrease in the number of births from the first quarter to the last is somewhat remarkable.

DEATHS AND DEATH-RATE.

The deaths registered exceeded the number in 1877 by no fewer than 496, and they exceeded the corrected decennial average by 136. The gross number (whole parish) was 3,097: males 1,524, females 1,573; in the Town sub-district 2,498, and in Brompton 599. The death-rate, whole parish, was 20·3 per 1,000 persons living (0·8 above the decennial average), equal to one death to 49·5 of the population. The Metropolitan rate was 23·5 per 1,000. After making the necessary corrections by distributing the deaths at the parish infirmary, which is in the Town sub-district, and at the Consumption Hospital, which is in the Brompton sub-district (the 101 deaths of non-parishioners at the latter institution being retained in our vital statistics by way of compensation for deaths of parishioners outside the parish), the estimated death-rate

in the Town sub-district was 22 per 1,000, and in the Brompton sub-district 14·9 per 1,000. The sex death-rate was, males 24·3, and females 17·2 per 1,000, figures which agree pretty accurately with the proportionate death-rates in 1871 (males 22·3, females 15·7 per 1,000), in respect of which year we have accurate information as to the relative numbers of the sexes. There was one death to 49·5 persons living: one to 41, males; and one to 58, females.

The infantile mortality was high, the deaths under 5 years of age being 1,429, equal to 46·3 per cent. on total deaths, and to 31 per cent. on births registered. The deaths under 1 year were 823, equal to 26·5 per cent. on total deaths, and to 17·8 per cent. on births registered. These numbers and per centages are considerably in excess of the corresponding figures for 1877, and are also above the corrected averages. By way of comparison it may be added that the deaths under five years and under one year respectively, in the whole Metropolis were equal to 4·4, and 25·6 per cent. on total deaths; and to 28·2 and 16·4 on births registered. The deaths in Kensington and in London at 60 years of age and upwards were equal to 21·2 and 20·3 per cent. on total deaths respectively, the gross number in Kensington being 657.

The deaths of illegitimate children under five years of age were 151, equal to nearly 70 per cent. on the number of illegitimate births registered.

The subjoined table shows the quarterly number of deaths of each sex registered:—

KENSINGTON TOWN					BROMPTON			
		Sub-district.			Sub-district.			Grand
		Males.	Females.	Total.	Males.	Females.	Total.	Total.
1st	Quarter	329	327	656	72	95	167	823
2nd	„	303	306	609	85	71	156	765
3rd	„	287	278	565	52	82	134	699
4th	„	336	332	668	60	82	142	810
Totals...		1,255	1,243	2,498	269	330	599	3,037

The deaths in the first and last, or the winter, quarters (1,633), considerably exceeded the deaths in the two intermediate, or the summer, quarters (1,464), the excess being 169. The temperature of the air during the winter and summer quarters, respectively, was 41°5 and 57°7 Fahr.

The subjoined table shows the death-rate in 13 periods, corresponding to my monthly reports, and the average temperature of the air :—

Date of Report.		Death-rate per 1,000 living.	Mean Temperature of the air.
For Five weeks to Feb. 2, 1878.		21.5	40.4
Four	„ March 2	20.1	43.2
„	„ „ 30	19.6	41.5
„	„ April 27	22.9	47.3
„	„ May 25	18.0	55.5
„	„ June 22	18.2	56.1
„	„ July 20	20.3	66.5
„	„ Aug. 17	19.9	63.4
„	„ Sep. 14	17.0	60.9
„	„ Oct. 12	15.2	54.8
„	„ Nov. 9	17.6	45.5
„	„ Dec. 7	22.3	38.9
Three	„ „ 28	26.1	30.8
Averages ...		20.3	49.6

The detailed causes of death are set out in Table 3 (Appendix), in 13 divisions, according to age. The ages at death (excluding the deaths of non-parishioners at the Brompton Consumption Hospital), were as follows :—

Deaths under 1 year of age	...	...	823
„ between 1 and 2 years	...	...	314
„ „ 2 „ 5	„	...	271
„ „ 5 „ 15	„	...	137
„ „ 15 „ 25	„	...	114
„ „ 25 „ 35	„	...	155
„ „ 35 „ 45	„	...	193
„ „ 45 „ 55	„	...	219
„ „ 55 „ 65	„	...	249
„ „ 65 „ 75	„	...	285
„ „ 75 „ 85	„	...	191
„ „ 85 „ 95	„	...	41
„ „ 95 and upwards	...	...	8

The following table shows the number of deaths due to the chief great classes of diseases :—

	Kensington Town Sub-District.	Brompton Sub-District.	Total.	Deaths per 1,000 living.	Deaths Per 1,000 Deaths.
Zymotic diseases (all)	555	79	634	4·1	212
Constitutional „	498	107	605	3·9	196
Local „	1105	238	1343	8·6	434
Developmental „	279	63	342	2·2	111
Deaths from Violence	52	11	63	0·4	16

SPECIAL CAUSES OF DEATH.

CLASS 1.—ZYMOTIC DISEASES.

The class of diseases called Zymotic comprises four Orders, and the total deaths were 634, exclusive of 23 that took place in the hospitals belonging to the Metropolitan Asylums Board.

Order 1. **MIASMATIC.**—The deaths from the “seven principal diseases” of the zymotic class (to adopt the customary phraseology, although nine diseases, including the three varieties of “Fever” are comprised in this definition), were 543 in number. To this total 23 deaths that took place in the hospitals of the Asylums Board must be added, viz., 16 from small-pox and 7 from “fever,” thus raising the total to 566.

Of the deaths registered as occurring in the parish, 476 took place in the Town Sub-District and 67 in Brompton, as follows :—

			Town.	Brompton.	Total.*
Small-pox...	...	...	3	5	8
Measles ...	...	...	48	3	51
Scarlet Fever ...	...	...	60	8	68
Diphtheria ...	...	...	22	0	22
Whooping Cough...	...	...	165	22	187
“Fever” (31)	{ Typhus	...	3	0	3
	{ Enteric	...	14	9	23
	{ Simple continued...	...	3	2	5
Diarrhoea ...	...	...	158	18	176
Total ...	...	...	476	67	543

* These figures differ slightly from those in the Registrar-General's Annual Summary, which shows a total of 548.

This total is considerably above the corrected decennial average (495), but in the previous year the deaths from the same diseases (339) were far below the average. The death-rate from these diseases was 3·7 per 1,000 living in the whole parish: 4·3 in the Town sub-district, and 1·8 in Brompton. The rate in all London was 4·1. The deaths in Kensington were equal to 181 per 1,000 deaths, the proportion in all London being 175. The proportion of deaths from the same diseases to deaths from all causes in England and Wales in 1877 was 135—an unusually low rate.*

Among other diseases of the Zymotic Class, *Croup* was the cause of 17 deaths, 14 under five years of age—16 in the Town sub-district and 1 in Brompton.

Erysipelas occasioned 8 deaths; 6 in the Town sub-district and 2 in Brompton. Three of the deaths were of children under five years.

Puerperal Fever (*Metria*) was the registered cause of 6 deaths, all in the Town sub-district; five of the deaths were of women between 25 and 35 years of age. It may be here mentioned that 14 deaths were ascribed to *Childbirth* (all but 1 in the Town sub-district); 5 between 15 and 25 years; 5 and 4 respectively in the next two decades. Thus 20 deaths, according to the registration returns, were due to the diseases and accidents incident to parturition, or rather less than 0·5 per cent. on the live births—about half the usual rate of mortality from these causes. *Metria*, it may be added, is a specific disease of a highly contagious character, affecting women in the puerperal state.

Rheumatism was the cause of 10 deaths (2 of them in Brompton), all but one of persons above 5 years of age. The more immediate cause of death in these cases, usually, is disease of the heart. Sometimes heart-complication proves fatal in the course of an attack of rheumatic fever: more commonly, however, the secondary disease proves fatal at a later period of life; and it is probable that a considerable percentage of the deaths returned as due to heart disease might be comprised under the head of rheumatism, and would be, if the history of the illness could be traced from the commencement.

Order 2. ENTHETIC DISEASES.—The only fatal disease in this order was *Syphilis*, which occasioned 17 deaths; 14 of them in the first year of life, and 2 in the second. Only 1 death from this cause was registered in the Brompton sub-district. The number of deaths ascribed to *Syphilis* is greater than usual, though it would probably be found to be

* For some account of the mortality from the "seven principal diseases of the zymotic class" *vide* page 8 *et. seq.*

understated if all the facts were known. One death of a child 12 months old was registered as "Syphilis (Vaccine), 7 months." Without questioning the accuracy of the diagnosis as to the nature of the fatal disease, there appears good reason for doubting whether vaccination had anything to do with the illness. At any rate a careful inquiry made with the assistance of the vaccination officer led to no positive result, for I could not learn whether any other children had been vaccinated from the same child as the deceased, or whether the lymph from the arm of the deceased had been employed for vaccination. The case occurred in private medical practice.

Order 3.—DIETIC DISEASES.—Eight deaths were attributed to the diseases in this order, viz., *Purpura* and *Scurvy*, 2, and *Alcoholism*, 6. Five of the deaths attributed to drink occurred in the Town sub-district. The registered cause of death in three cases was *delirium tremens*, and in other three *intemperance*. Many deaths really due to the abuse of alcohol appear on the registers as having been caused by diseases which doubtless had been set up or aggravated by drink.

Order 4.—PARASITIC DISEASES.—Nine deaths in the first year of life (six of them in the Town sub-district) were due to *Aptha* (Thrush), the only fatal disease named in this order.

CLASS 2.—CONSTITUTIONAL DISEASES.

The second great class in the Registrar General's tables, viz., Constitutional diseases, comprises the causes of 605 deaths; 498 in the Town sub-district, and 107 in Brompton—122 above the number registered in 1877. This class includes two Orders, viz., (1) diathetic diseases, 101 deaths; and (2) tubercular or scrofulous diseases (including phthisis) 504 deaths.

ORDER 1. DIATHETIC DISEASES.—101 deaths.—The fatal diseases were *Gout* (4), *Dropsy* (9), *Cancer* (79), *Cancrum oris* (4), and *Mortification* (5). Twenty of the deaths occurred in the Brompton sub-district, including 18 due to cancer.

ORDER 2. TUBERCULAR.—Total deaths 504, viz., 417 in the Town sub-district, and 87 in Brompton. *Scrofula* and *Tuberculosis* occasioned 59 deaths; 8 in Brompton. *Tabes mesenterica* (popularly called "consumption of the bowels") 61 deaths—3 in Brompton. *Phthisis* 299 deaths, 238 in the Town sub-district, and 61 in Brompton. *Hydrocephalus* (water on the brain), and *Tubercular meningitis* 85 deaths—15 in Brompton. As usual the deaths from these diseases were

disproportionately more numerous in the Town sub-district. In Table 3 (Appendix) the deaths of non-parishioners at the Brompton Consumption Hospital, 101 in number, are excluded. Some particulars with respect to these deaths, however, are given at page 45.

It may be observed that many of the deaths of young children ascribed to such causes as *premature birth*, *atrophy* and *debility*, *convulsions*, &c., are probably due primarily to the scrofulous taint, whether inherited or simply induced by want of care, or of suitable food, light, air, &c.

Seventy-eight of the deaths in this order occurred in the first year of life, 58 in the second, and 33 between two and five, making a total of 169 deaths of children under five years. The deaths in later life occurred as follows :—Between 5 and 15 years, 37; 15 and 25, 53; 25 and 35, 76; 35 and 45, 74; 45 and 55, 64; 55 and 65, 23; 65 and upwards, 8. The deaths from tubercular diseases in 1877 were less than in 1876 by nearly 100; but the deaths from the same diseases last year exceeded the number in 1876 by about 30, and those in 1877 by 130. The quarterly numbers of deaths were 127, 134, 125, 118, or 245 in the cold or winter quarters, and 259 in the warm or summer quarters.

CLASS 3.—LOCAL DISEASES.

This great class of diseases accounts for more than 40 per cent. of the registered deaths. It is sub-divided into eight Orders, agreeing with the systems or organs of the body affected, all of which will be noticed in turn. The deaths from the diseases in this class, 1,343 in all, were as usual relatively fewer in Brompton sub-district (238) than in the Town sub-district (1,105). More than a third of the deaths (459) were of children under five years.

Order 1. NERVOUS SYSTEM.—The diseases of the nervous system caused 315 deaths, viz., 261 in the Town sub-district, and 54 in Brompton; 103 were of children under five. The fatal diseases as registered were :—*Cephalitis* (inflammation of the brain) 4, *Apoplexy* 86 (of which 17 in Brompton), *Paralysis* 41 (13 in Brompton), *Insanity* 2, *Epilepsy* 16 (7 in Brompton), *Brain disease* 75 (of which only 9 in Brompton), and *Convulsions*—a symptom in many infantile diseases rather than a disease in itself—91, and only 7 of them in Brompton. Of the 91 deaths from convulsions, 89 were of children under five; 69 having occurred in the first, and 16 in the second year of age.

Apoplexy and Paralysis—diseases of the later periods of life—were the causes of nine deaths under 35 years of age; of two between 35

and 45; of 19, 34, 44, and 16 in the four following decades; three deaths from apoplexy were of persons between 85 and 95 years of age.

Order 2. ORGANS OF CIRCULATION.—Total deaths 202; five under 5 years of age, and 31 in the Brompton sub-district. The fatal diseases were *Pericarditis* 5, *Aneurism* 9, and "*Heart Disease*" 188, viz., 159 and 29 in the Town and Brompton sub-districts respectively. Thirty-three of the deaths were of persons between 5 and 35 years of age. In the five consecutive decades above 35, the deaths were respectively 23, 34, 36, 44, and 20. Six deaths were of persons between 85 and 95, and one death occurred at upwards of 95.

Order 3. RESPIRATORY ORGANS.—The deaths from the diseases of the respiratory organs were 636 (nearly 100 more than in 1877), 532 in the Town sub-district, and 104 in Brompton; 331 of the deaths were of children under five. The deaths in the four quarters respectively were 207, 141, 71, and 217. Eight of the deaths were returned as caused by *Spasm of the Glottis*—but as these were mostly of infants found dead in bed, it may not unreasonably be questioned whether at an examination made hours or even days after death, there would be found any evidence of such a condition as spasm? In the absence of other apparent cause of death, the pre-existence of spasm of the glottis may have been inferred. *Laryngitis* was the cause of 9 deaths; *Bronchitis* and *Pneumonia* were the causes of 336 and 219 deaths respectively—total 555, of which 91 only occurred in Brompton. Other diseases were *Pleurisy* 7, *Asthma* 15, and *Lung Disease* 42. Of the deaths from bronchitis and pneumonia 294 occurred under five years of age, and 194 above 55; only 67 deaths were of persons between 5 and 55. The diseases of the respiratory organs are most fatal at the extremes of life, and in cold wintry weather. Of the 636 deaths 424 took place in the first and fourth or winter quarters, and only 212 in the second and third or summer quarters.

Order 4. DIGESTIVE ORGANS.—The deaths from the diseases of the organs principally concerned in the process of digestion, were 99, of which 21 occurred in the Brompton sub-district. Fifteen of the deaths were of children under five. Among other affections of these organs *Liver disease*, *Jaundice*, and *Hepatitis* were the causes of 29, 15, and 8 deaths respectively; *Peritonitis*, *Enteritis*, and *Gastritis* of 11, 8, and 4; *Ulceration of the Intestines* and *Ileus* of 9 and 6.

Order 5. URINARY ORGANS.—Total deaths 65, of which 24 were in the Brompton sub-district. Thirty-eight of the deaths were caused by

Bright's Disease (Nephria), 14 of them in Brompton. *Cystitis* (inflammation of the bladder), and "*Kidney disease*" were each the cause of 9 deaths. Other diseases ;—*Nephritis* 3 deaths, *Diabetes* 2, *Calculus* (stone) 4.

Order 6. ORGANS OF GENERATION.—Total deaths 7. Diseases, *Ovarian Dropsy* 3, and *Uterus disease* 4.

Order 7. ORGANS OF LOCOMOTION.—Six deaths from "*Joint disease*."

Order 8. INTEGUMENTARY SYSTEM.—Thirteen deaths. From *Phlegmon* (abscess), 5, *Ulcer* 7, and "*Skin disease*" 1.

CLASS 4.—DEVELOPMENTAL DISEASES.

This class of diseases contains four orders, and comprises the diseases (1) of children, (2) of adults, (3) of old people, and (4) of nutrition. The total deaths were 342, of which 242 were of children under five, and 63 occurred in Brompton.

Order 1. DISEASES OF CHILDREN.—"*Premature Birth*" led to the termination of existence in 60 infants under one year, while *Cyanosis*, *Spina Bifida*, and "*other malformations*" account for the deaths of 8, 1, and 4, deaths respectively. Thirty-nine deaths were ascribed to *Teething* ; 22 in the first year, 15 in the second, and 2 between 2 and 5 years.

Order 2. DISEASES OF ADULTS.—*Childbirth* was the cause of 14 deaths, of which only one was in Brompton.

Order 3. DISEASES OF OLD PEOPLE.—"*Old Age*," is the only "disease" in this order. Total deaths 79 (10 of them in Brompton), viz., 2 between 55 and 65, 18 between 65 and 75 ; 40 between 75 and 85 ; 17 between 85 and 95 ; and 2 above 95.

Order 4. DISEASES OF NUTRITION.—Total deaths from *Atrophy and Debility*, the only diseased condition named, 137 : 130 occurred under five years, including 119 under one year. Twenty-nine of the deaths took place in the Brompton sub-district.

CLASS 5.—VIOLENT DEATHS, &c.

Sixty-three deaths are distributed over the four orders comprised in this class, of which 11 belong to Brompton.

Order 1. ACCIDENT OR NEGLIGENCE.—Total deaths 55, including *fractures and contusions*, 20 ; *burns and scalds*, 6 ; *poison*, 4 ; *suffoca-*

tion, 19; drowning, 1; and "otherwise," 5. Of the deaths from suffocation 16 occurred in the first year of life. Thirty of the deaths in this order were of children under five, and 10 of the deaths were registered in the Brompton sub-district.

Order 3. HOMICIDE.—One death of an infant, registered cause (without explanation), "*Murder.*"

Order 4. SUICIDE—Five deaths; 3 by *Poison*, and 2 by *Wounds*.

Two "sudden deaths" were registered, the causes of which were not ascertained; and 5 deaths come under the heading "*Causes not specified or ill-defined.*"

DEATHS AT PUBLIC INSTITUTIONS.

The only "large public institutions" in the parish at present, are (1) the Parish Infirmary and Workhouse, situated in the Town registration sub-district, (2) the Hospital for Consumption and Diseases of the Chest, located in Brompton, and (3) St. Joseph's House, a Roman Catholic home for the poor, situated in the Portobello Road. This house contains about 250 aged persons of both sexes, and there died therein last year 34 persons, viz., 16 males and 18 females, mostly of very advanced age, and from the ordinary diseases of senility.

The Barracks, the various homes, nurseries, &c., do not furnish a sufficient number of deaths in the aggregate to call for any special reference in this place. The deaths registered at the three principal public institutions named above were equal to 13.2 per cent. on total deaths in the parish—the equivalent proportion in London generally being 18.4 per cent.

THE PARISH INFIRMARY AND WORKHOUSE.—I am indebted to Dr. Whitmore, the Medical Superintendent of the Infirmary and the Medical Officer to the Workhouse, for the statistics of mortality at these important institutions. The deaths registered last year were 284, viz., males 136, and females 148. The quarterly numbers of deaths were 56, 49, 73, and 106—162 in the winter and 122 in the summer quarters. The deaths were 61 more than in 1877, a difference due to a considerable increase in the numbers of the sick admitted into the Infirmary, and to the severe winter of 1878, which proved very fatal to aged people.

The ages at death were as follow:—Under one year 27; between one year and sixty 139; sixty and upwards 118. Of the deaths in the

latter group 62 occurred between 60 and 70 years of age; 36 between 70 and 80; and 18 between 80 and 90. Two females died of "old age" at 90 and 92 years respectively. Five inquests were held during the year, the verdicts returned being "*Disease of the heart, accelerated by cold*;" a woman of 73 found destitute in the streets; "*Tuberculosis*," a child of eight months erroneously supposed to have died of starvation; "*Suffocation, accidental*," a child of three days old; "*Rupture of the Intestine*," a male of 69; "*Pneumonia*," an epileptic man of 24.

The causes of death may be grouped as follows:—

	Under 1 Year.	Between 1 and 60.	60 and upwards.	Total.
Diseases of the Nervous System ...	2	20	27	49
Diseases of the Circulatory System	0	12	6	18
Diseases of the Respiratory System	5	14	36	55
Diseases of Abdominal Viscera ...	0	4	5	9
Measles ...	2	4	0	6
Croup ...	0	1	0	1
Whooping-cough ...	3	14	0	17
Enteric Fever ...	0	1	0	1
Erysipelas ...	0	0	1	1
Dysentery ...	0	1	0	1
Diarrhoea ...	2	7	7	16
Syphilis ...	1	0	0	1
Gout ...	0	0	1	1
Dropsy ...	0	3	1	4
Cancer ...	0	0	4	4
Gangrene ...	0	3	9	12
Phthisis ...	0	38	4	42
Scrofula ...	0	5	3	8
Atrophy...	7	6	0	13
Want of Breast Milk...	2	0	0	2
Premature Birth ...	2	0	0	2
Childbirth ...	0	2	0	2
Ulcer ...	0	2	4	6
Abscess ...	0	2	1	3
"Old Age" ...	0	0	8	8
Suffocation ...	1	0	0	1
Unknown ...	0	0	1	1
	27	139	118	284

THE HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—The deaths at this institution were 107, viz., 57 males and 50 females: 29 in the first quarter, 31 in the second, 23 in the third, and 24 in the fourth; or about an equal number in the winter and summer quarters respectively. All but six of the deceased were non-parishioners.

This hospital, widely and favorably known, is less strictly a Metropolitan hospital than many others, drawing patients as it does from many even distant parts of England. Of the 107 persons who died there in 1878, rather more than half (58) had previously been resident in London proper, 24 came from other than Metropolitan counties, and the remaining 25 came from the suburbs, or "greater London."

The ages at death were as follows:—Between 10 and 20 years, 14; 20 to 40 years, 77; 40 to 60 years, 16. The causes of death as registered, were—In 86 cases, *Phthisis* (Consumption) alone; in 12 cases phthisis with complications affecting the heart, the lungs, or the bowels. Heart disease was the cause of 7 deaths. Aortic disease and Diabetes each caused one death.

INQUESTS.

The "cause of death" in 176 cases (males 101, females 75) was returned by the coroner (inquests), and was ascertained in 120 instances by examination after death. Inquests were held on 60 infants under one year of age, or more than one-third of the whole number. There were 11 inquests on children between one and two years, and 13 on children between two and five, so that 84, or nearly half the inquests were held on the bodies of children under 5. Between 5 and 20 years there were 12 inquests, 52 between 20 and 60 years, and 28 above 60 years.

The apparent ground for holding an inquest was the "suddenness" of the death in 92 cases; the finding of the dead body in 47 cases*; "violence" in 32 cases; sundry other causes, 5 cases.

The verdicts returned may be classified thus:—

Diseases of the brain and nervous system (apoplexy, paralysis, convulsions, &c.)	...	...	29
Diseases of the heart and circulatory system	...	...	45
Diseases of the lungs and respiratory system	...	...	19
Diseases of the bowels	...	...	2
Carried forward	...	...	95

* In 22 of these 47 cases the dead body was "found in bed;" most of these 22 cases were "violent deaths" of infants suffocated or "overlaid."

	Brought forward				95
Tubercular or Scrofulous diseases...	...	...	...	...	8
Diarrhoea	...	...	...	...	3
Croup	...	...	...	...	1
Spasm of the Glottis	...	...	...	...	7
Syphilitic cachexia	...	...	...	...	1
Intemperance	...	...	...	...	1
Sunstroke	...	...	...	...	1
"Sudden "	...	...	...	...	1
"Found dead "	...	...	...	...	3
Violence ... {	Accident	...	...	49	55
	Suicide	...	...	5	
	Wilful Murder	...	...	1	
					<hr/> 176

VIOLENT DEATHS.

The violent deaths were caused as follows:—

Run over accidentally		By a wagon or cart	... 3	5
		By a railway train	... 2	
Falls	From windows	...	... 2	12
	„ the roof of a house	...	... 1	
	„ ladders	...	... 3	
	into areas	...	... 3	
	from a bed	...	... 1	
	downstairs	...	... 1	
	from a railway	...	... 1	
Suffocation, accidental, of infants		...	...	16
„ of an adult by fumes of a portable stove				1
Scalds	...	...	...	4
Burns	...	...	...	2
Drowning	...	...	...	1
"Injury"	...	...	...	2
"Neglect at birth"	...	...	...	2
Poisoning	Accidental.	By sweet spirits of nitre	... 1	4
		„ Chlorodyne	... 1	
		„ Chloral	... 1	
		„ Santonin (given for the cure of "worms")	1	
		Carried forward	...	49

		Brought forward ...	49
Suicide...	By poison, viz:—By rat-poison	... 1	5
	„ chloral...	... 1	
	„ oil of vitriol	... 1	
	By pistol shot wounds	... 2	
	Wilful Murder (no particulars given)	... ..	1
			<hr/> 55 <hr/>

WHY SO MANY INQUESTS ARE NECESSARY.

I have felt it my duty in several annual reports to remark on the evidence afforded by many inquest-returns of the obviously culpable neglect of parents to obtain medical assistance for their sick children, which is patent on the very face of the verdicts,—for people do not die “suddenly” of inflammation of the lungs, bronchitis, and other visceral diseases; that is, not without obvious and continued symptoms of serious illness, proclaiming the necessity of recourse to medical assistance. The evidence of this kind of neglect is just as marked as ever in the returns for the past year, and so long as parents are allowed to neglect the health, and practically to sacrifice the lives, of their children with impunity, such neglect is likely to continue. There is no excuse for parents now-a-days, for apart from the gratuitous medical aid obtainable at hospitals and dispensaries, to say nothing of the Poor Law Medical Service, there are now so many so-called “Provident Dispensaries,” where some sort of medical attention may be obtained by the outlay of a few pence, that it is surprising any child should be allowed to die of diseases such as I have named, without having been seen by a medical man, even though assistance should have been sought only at the last, and with a view to certification of the cause of death and consequent avoidance of the scandal of a verdict which is almost conclusive proof of parental neglect.

The inconsistency of Coroners’ Juries is remarkable, for on the one hand they have branded religious persons of the sect called the “peculiar people” with the stigma of a verdict of “manslaughter,” for refusing, on conscientious, though mistaken, interpretation of Holy Scripture, to “send for the doctor” to a child sick unto death; while on the other hand, they allow parents who can lay little or no claim to the possession of common humanity to escape scot free, though guilty of the same offence, without the same or any palliative excuse. If parents of this

latter class were to be treated like the members of the sect above named, the scandal would be soon diminished, if not removed.

DEATHS "NOT CERTIFIED."

Forty-five deaths were returned as "not certified," *i. e.*, the deceased had been attended in their last illness by unregistered practitioners. All but a very few of the deceased were the patients of one practitioner who upon the production of a diploma of a foreign University, was lately admitted to a "modified" examination by one of the licensing bodies, and having "passed" is now a "duly registered medical practitioner."

In two instances, the return made was "no medical attendant," these cases, of course, being irrespective of those in which, because there had been no medical attendant, inquests were held. In 9 cases of infants who died, some of them at so late after birth as one month, a midwife was the only professional attendant, and this happened in more than one case under circumstances in which the neglect to obtain proper medical assistance was really almost inexcusable. Two children died from want of proper attention at birth. All included, the deaths were 58, which were either "not certified," or where there was "no medical attendant," or no other professional attendant than the midwife.

GLANDERS.

A death from this terrible malady occurred in March (1879) at a stable in Colville Mews, the victim being a child aged 15 months. A sister of the deceased, a young woman of eighteen, contracted the malady, was removed to St. Mary's Hospital, in Paddington parish, and died there.

On investigating the circumstances of the first death I found that glanders had existed for many weeks at two out of three stables occupied by a cab-proprietor in the above-named "private" mews. Ten horses had been removed from the stables, some of them had died, others had been killed, and the remainder had been conveyed alive through the streets to the knacker's. There were two or three ill at the date of my visit, one of them suffering from farcy. The construction of all the premises was found to be bad, for the living rooms are approached through the stable (which, practically, is unventilated) by an open

staircase, up which the foul air of necessity ascends. It was not quite clear in what manner the child first attacked contracted the disease. The mother fancied a horse might have snorted the morbid secretion from the nostrils on the child in her arms as she was going up or down stairs, but it seemed more probable that the infection had been conveyed in vitiated air. The second case may have been due to contagion, for the young woman—a servant out of place, and not long at home, had occasionally nursed the baby, whose neck was extensively ulcerated. The father of the children had nothing to do with the horses, and there was no reason to suppose that any member of the family had been in contact with them or had approached them nearer than the use of the staircase had rendered necessary.

I gave notice of the disease in the horses to the Privy Council (Veterinary Department), to the Metropolitan Board of Works (the "Local Authority" under the Contagious Diseases (Animals) Act, 1878), and to the Police. The premises were immediately visited by the officers of the local authority, and on the following day three horses were destroyed, and two others were destroyed subsequently. The stables were disinfected and put under surveillance until all danger of further spread of the disease was at an end. I also communicated the death of the child to the Coroner for Western Middlesex, who, however, did not deem it necessary to hold an inquest; but Dr. Hardwicke, the Coroner for Central Middlesex, to whom I reported the death of the second patient, at the hospital, appreciating the importance of the case decided at once to hold an inquest.

Before stating the result of the enquiry it may be as well to refer to the law relating to glanders and farcy, which is comprised in "The Contagious Diseases (Animals) Act, 1878, and "The Animals' Order of 1879, by Her Majesty's Privy Council"; the "Local Authority" for all London, the City excepted, being, as already stated, the Metropolitan Board of Works. By section 8 of the Order, horses are "deemed to be animals" and "glanders and farcy to be diseases for the purposes" of certain clauses of the Act, including clause 31, which makes it the duty of the owner of a horse affected with glanders or farcy to give immediate "notice" of the fact to the Police. The same clause requires the owner to keep the diseased animal separate from animals not so affected. Section 10 of the Order requires the Local Authority to pub-

lish notice by placards, handbills, or otherwise, of the existence of glanders or farcy in any stable, building, or other place, and to continue such publication during the existence of the disease, and until the place has been cleansed and disinfected. Movement or exposure of diseased horses on a highway or thoroughfare is forbidden by section 18 of the Order (sub-section *d*); and movement and exposure of dung, fodder, or litter which has been in contact with or used about a diseased horse (except under license of the Local Authority, after everything moved has been disinfected,) is forbidden by section 20. The 19th section empowers the Inspector or other officer of the Local Authority to seize an exposed horse, and if the same is found to be affected with glanders or farcy, to have it slaughtered. Section 21 empowers the Local Authority to cause the carcass of any horse that has died of glanders or farcy, or has been slaughtered in consequence of being affected with either of these diseases, to be buried as soon as possible in its skin (which is first to be so slashed as to make it useless), and to be covered with quick-lime and not less than six feet of earth. Or the Local Authority may (if authorised by license from the Privy Council) cause the carcass to be disinfected, and afterwards removed to an approved place, there to be destroyed by heat or by chemical agents.

From the information I procured, it appeared that the law had not been complied with in several respects, *e.g.*—

1. Notice of horses affected with glanders or farcy had not been given to the Police.
2. Glandered horses had not been kept separate from horses not affected.
3. Glandered horses had been exposed on public highways and thoroughfares.
4. Carcasses of glandered horses had not been buried or destroyed.
5. Carcasses of glandered horses had been removed to a knacker's premises at Wandsworth without authority.
6. Dung had been exposed and removed contrary to the Order.
7. Glandered and other horses, in considerable numbers, had been slaughtered at Blechynden Mews contrary to the provisions of "The Slaughter Houses (Metropolis) Act, 1874," clause 2 of which Act imposes a heavy penalty for the offence

of "establishing anew" within the limits of the Act, "the business of a knacker," which term (in the definition clause 12) is stated to mean "a person whose business it is to slaughter any horse, ass, or mule, or any cattle, sheep, goat or swine, which is not killed for the purpose of its flesh being used for butchers' meat."

On the 12th April the Coroner opened his enquiry, but very little information was forthcoming on that occasion. I therefore suggested an adjournment and that all the persons who had in any way been connected with the diseased horses should be subpoenaed to give evidence. At the adjourned inquest, the Privy Council and the Local Authority were both represented; and, clothed with the authority conferred on me by your Vestry I was, by the courtesy of the Coroner, enabled to elicit from the several witnesses facts which created a strong impression on the public mind, but which, being now matter of notoriety, need not be dwelt on here. Suffice it to say that, notwithstanding the tergiversation of some of the witnesses, who had previously given me information, the non-compliance with the law, as laid down in the Contagious Diseases (Animals) Act, and in the "Animals Order" of the Privy Council, in all the respects above stated, was substantially proved. I was enabled, moreover, to show that an unauthorised business of a "knacker," on an extensive scale, had been carried on for a long time at Notting Hill by Mr. Tedder, a horse-dealer—who had purchased the diseased animals, which he had taken to his own premises and there pole-axed them, and who had removed carcases thence, and from Colville Mews, to the premises of a licensed horse slaughterer at Wandsworth, whose books proved that he had already in the present year received more than eighty dead horses from Mr. Tedder. It was elicited from unwilling witnesses, moreover, that on an average three or four horses a week had been killed by this person. The licensed horse slaughterer admitted that the flesh of glandered horses is habitually cooked and sold for cat's meat; that the fat is melted down for sale (but for what purposes it is used he "did not know"); and that the skins are sent to the fellmonger in the ordinary way of business. The "Order" of the Privy Council, as before stated, provides for the destruction of the entire carcase by heat or chemical agents, or for its burial.

It seemed to me that the facts brought out in the course of the enquiry would have justified a verdict of manslaughter. The actual verdict returned, however, was in the following terms :—

“ We, the jury, find that Emily Susan Hulbert was found dying and did die in St. Mary’s Hospital from the mortal effects of glanders contracted at No. 16, Colville Mews, Kensington (her sister having previously died from the same disease). The jury are further of opinion that the provisions of the Contagious Diseases (Animals) Act, 1878, with reference to the outbreak of glanders and to the treatment and disposal of the carcasses of horses suffering from such disease, have not been duly carried out.

“ It further appears that the provisions of the Slaughter Houses (Metropolis) Act, 1874, have been violated by carrying on trade by unlicensed knackers.

“ The jury further desire that the facts given in evidence may be brought before the Privy Council, and that steps be taken to avoid if possible, the occurrence of such accidents in future.”

Proceedings were subsequently instituted by the Local Authority against the proprietor of the glandered horses, for not giving notice of the disease to the Police, as required by the Act; and he was fined in the full penalty of £20 (with costs) in each of two cases.

It appeared to have been felt that he had been sufficiently punished for his offence by the loss of property and by the penalties inflicted (which, however, it has been stated, were paid by a subscription among his horse-owning friends), and this feeling perhaps explains why no steps were taken to bring him to account for the other offences of which he had presumably been guilty. Your Vestry, however—sharing my conviction that some notice should have been taken of the doings of the horse dealer, for it was evident that if he had not interposed between the owner of the horses and the licensed “knacker,” the existence of glanders must have become known much sooner, and the fatal results of the outbreak might have been avoided—requested the Local Authority to take proceedings against him under section 3 of the Slaughter Houses (Metropolis) Act, 1874, for “establishing anew” the business of a knacker.

The Board in their reply having expressed their opinion that Mr. Tedder, the person in question, is not a knacker, and had not

established the business of a knacker within the meaning of the Slaughter Houses (Metropolis) Act, 1874, and, therefore, they did not feel it necessary to take proceedings as suggested, your Vestry, on the recommendation of the Special Purposes Committee, requested the Board to reconsider their decision, and in support of this application reminded them that, according to the 12th section of the Act, "knacker" means a person whose business it is to slaughter horses, &c.," and that by section 13 of the Act, a business is deemed to be established anew if it is removed from any one set of premises to any other premises. It was stated to be capable of proof—(1) That Mr. Tedder had been accustomed to slaughter horses in great numbers at his premises in Blechynden Mews: (2) That he had entered upon the occupation of the said premises since the passing of the said Act; and (3) That he holds no license under section 94 of the 25th and 26th Vict., c. 102 (Metropolis Local Management Amendment Act), for the keeping or using of any place in the parish of Kensington for the purpose of killing horses. "Thus" (your Vestry's communication continued) "as Mr. Tedder slaughters horses without a license, and at a place not licensed for the slaughtering of horses, and as he did not occupy the said place at the passing of the Slaughter Houses (Metropolis) Act, the Vestry consider that his proceedings are in contravention of the law. Agreeing with the Board that it is desirable to put a stop to the illicit slaughtering of horses, as it tends to spread disease by keeping the occurrence of cases of glanders, &c., from the knowledge of the Board, the Vestry hopes that the Board may yet see their way to proceed against Mr. Tedder, and put a stop to his unlawful business."

The Board subsequently intimated to your Vestry, that if evidence were forthcoming to prove that Mr. Tedder had slaughtered horses in considerable numbers, and that he had entered upon the occupation of his premises since the passing of the Act, they would institute proceedings as suggested. But, as they stated at the same time that Mr. Tedder had now wholly discontinued his unlawful business—which appeared to be the case, and the object of your Vestry's interposition had thus been effected—the matter was not further pressed.

I may perhaps be pardoned for mentioning here that "The Lords of the Council" tendered me their thanks for the action I took in con-

naction with the above outbreak and enquiry, and intimated that the matter was in "course of strict investigation by direction of their Lordships."

Investigation was indeed necessary as there is but too much reason to fear that the provisions of the law for the suppression of glanders had been systematically broken or evaded for a long time; for, on it becoming known that rigorous proceedings would be taken against offenders (as the Home Secretary and the Privy Council alike desired), the police received notice of diseased horses to an extent far above the previous average, the Inspector for the district having informed me (at the end of July) that he was having horses destroyed at the rate of more than 20 in a month. In several cases, moreover, the authorities discovered diseased horses in respect of which they had not received notice, and proceedings against the owners having been instituted, the maximum penalty of £20 was inflicted in each case.

It only remains to state that, having made a careful inspection of the stables in Colville Mews, I came to the conclusion that the living rooms, were unfit for human habitation, and I gave a certificate to that effect to your Vestry, in conformity with the provisions of the Artizans' and Labourers' Dwellings (commonly known as Torrens') Act. Your Vestry's Surveyor subsequently made a report on the premises, showing what alterations, &c., were necessary to fit the rooms for habitation, and the owner at once consented to make them, and he will have to make similar alterations in other stables in the same mews.*

METEOROLOGY.

The mean temperature of the air at Greenwich in 1878 was 49°·6 Fahr., or 0°·3 in excess of the average of 39 years. The averages for the four quarters were 41°·5, 54°·6, 60°·8 and 41°·6. The highest reading by day (85°·8) was taken in the week ending June 26, and the lowest reading by night (12°·2) in the week ending December 28. The hottest week in the year was that which ended June 26 (mean temperature 70°·); and the coldest that which ended Dec. 14th (mean temperature 28°·4). The dryness of the atmosphere (*i.e.*, the difference between the dew-point temperature and air temperature) was 5°·8;

* In connection with the outbreak of Glanders, the attention of the Vestry was directed to the dangerous and unseemly practice of carrying dead horses through the streets, with the head hanging out, in open and exposed vehicles; and the Vestry requested the Metropolitan Board of Works to frame a regulation under the Slaughter houses (Metropolis) Act, 1874, to compel knackers to provide properly enclosed vehicles for the removal of carcasses. The Board, while recognizing the impropriety of the practice referred to, and the desirability of putting a stop to it, doubted their power to do as requested; but promised to make a communication to the knackers, with a view of carrying out the views of the Vestry.

average of 38 years, 5°·7. The mean reading of the barometer was 29·751 inches. The rain-fall was 29·2 inches, the average in 39 years being 24·3 inches. Rain fell on 166 days.

VACCINATION.

It gives me pleasure to present in the Appendix (Table X) the "Returns respecting the Vaccination of Children whose Births were registered in 1878," for which I am indebted to Mr. Shattock, the Vaccination Officer, whose energy and success in the performance of the duties of an important office it has always afforded me satisfaction to recognize in my annual reports. The Local Government Board do not call for a final report on the vaccination in any given year until twelve months after the completion of that year, as a certain proportion of the cases cannot be fully accounted for in a less time, The present return therefore having been furnished to the end of June only, is not final as to the vaccination in 1878, but even were it so it would be considered satisfactory and probably up to the average of the Metropolis generally. The final reports on vaccination in Kensington have for some years held almost, if not quite, the first position for "results," *i.e.*, as showing the smallest number of "cases not accounted for."

No alteration has been made in the arrangements for free public vaccination since the publication of my last annual report, in which I referred to the then recent abolition of the "Station" at Brompton; I am informed, however, that there has been no falling off in the number of primary vaccinations in that part of the parish.

During the year 1,845 infants were vaccinated at the public stations, *viz.*, 1,324 at Notting Hill and 521 at Hornton Street, the "Town" station. There has been little done in the way of re-vaccination even in Brompton—notwithstanding the intermittent prevalence of small-pox; not even in the houses where the disease has existed. Altogether there were 169 re-vaccinations, *viz.*, 29 in the North district, when small-pox was almost entirely absent in 1878, and 140 in the combined Southern district.

It would seem desirable that some arrangement should be made to facilitate re-vaccination in the houses where the disease appears, as, *e.g.*, by the provision at the public expense of fresh "lymph" in tubes for the use of the district medical officer, who is authorised to vaccinate

and re-vaccinate in houses where small-pox exists, and is entitled to payment for his work the same as a "public vaccinator."

SANITARY WORK.

The principal items of the sanitary work of the Inspectors are set out in Tables VI and VI_A (Appendix.) A not inconsiderable part of the work of the Inspectors, however, scarcely admits of tabulation, many sanitary improvements being carried out on their advice without the necessity of recourse to forms, notices, or other legal proceedings, all of which take up time just when the object is to get nuisances abated, &c., without delay. But when persuasion fails, and recourse must be had to the forms of the law there can be no doubt that it is the duty of an Inspector to proceed with the utmost despatch; rigour is then not only the best policy but in the end it is also the kindest. The difficulties that beset legal proceedings, however, tend to cool the ardour of Sanitary Inspectors in having recourse to magisterial assistance. I trust the plan recently sanctioned by your Vestry of authorising the Inspectors to issue a 'preliminary notice' immediately on the discovery of a nuisance will be attended with good results, and will frequently render unnecessary recourse to the more formal statutory notice by your Vestry, which necessarily involves more or less loss of time.

LICENSED SLAUGHTER-HOUSES.

The slaughter-houses are now 29 in number, viz., 20 north and 9 south of Uxbridge Road (*vide* Table XI, Appendix). The business of a slaughterer of cattle has not been "established anew" in Kensington since the passing of the "Slaughter Houses (Metropolis) Act, 1874." One license has lapsed, there having been no application for a renewal: the premises were very unfit for the business, so that the discontinuance of it is a clear sanitary gain. All the licensed premises were inspected by your Vestry's Works, Sanitary, and General Purposes Committee prior to the renewal of the licenses, and their report was published with my monthly Report (No. 11), Sept. 18th, page 74.

The Committee had occasion to complain of the neglect by several of the licensees to give that careful attention to the carrying out of the regulations (*e.g.*, Nos. 5, 10, and 16) essential for the prevention of nuisance. A copy of the Committee's report was forwarded to the several licensees, and their attention was called to the necessity of a

strict compliance with the provisions of the law. In several of the worst cases proceedings were taken for breaches of the regulations, and penalties ranging from £3 to £5 were imposed.

LICENSED COWSHEDS.

The licensed cowsheds are 26 in number, 18 north and 8 south of Uxbridge Road, (*vide* Table XII, Appendix). In my last annual report, having already in previous reports enlarged on the reasons for placing cowsheds and dairies under regulation by bye-laws, I referred to the progress that had been made, and more particularly to the powers then lately conferred on the Privy Council by the "Contagious Diseases (Animals) Act, 1878," (sec. 34), by which they are enabled to issue Orders for the registration of cowsheds and dairies, and for a variety of purposes in connection therewith.

The probability that the cowsheds (and dairies) would soon be made subject to regulations gave an increased interest to the annual inspection of the licensed premises, to which your Vestry's Works, Sanitary, and General Purposes Committee devoted great attention at numerous meetings, both prior to the licensing day and subsequently,—several cases having been adjourned for the completion of necessary sanitary improvements.

Your Committee reported in substance as follows :—

"In view of the probability that ere long Bye-Laws may be framed by the Local Authority under the above mentioned Act, your Committee have not thought it desirable to recommend the adoption, at this time, of any active steps in furtherance of those improvements of the cowsheds, which their former reports have shown to be necessary, and which, year by year, have been in progress

"There is one point in connection with the cowsheds, however, which cannot well be deferred any longer, viz., the question of *cubic space*, and it seems the more necessary to deal with it now as the subject is not mentioned in the Act. For several years your Vestry have required that in the case of premises newly licensed for the keeping of cows, a minimum of 800 cubic feet per cow should be provided, and the Justices have in every such case given effect to the views of your Vestry by limiting the number of cows that may be kept. Your Vestry in May last decided that the time had arrived when in the sanitary interests of the public an equal amount of cubic space per head should be provided in all cowsheds, and due notice of your Vestry's views was given to the several licensees: your Committee therefore paid particular attention to the subject in the course of their inspection. They found considerable variation in the amount of space actually provided, not so much for the cows found on the several premises (for some of the sheds were not half full), as in the provision made for a maximum number of cows which might at any moment be stalled in the sheds. Having regard to this maximum number, the amount of cubic space actually provided in one or two sheds falls as low as from 300 to 400 cubic feet per cow.

"Your Committee were much struck with the small allowance of standing room (floor-space) allowed to the cows in some of the sheds, and they are of opinion that this is a matter that needs attention, for in several instances they found the cows standing very uncomfortably on the edge of the stalls, their hoofs overhanging the channel ; while in other cases the animals had great difficulty in lying down, through being so much cramped for room. In any bye-laws that may be framed hereafter for regulating the structure of cowsheds, this question of floor space should not be overlooked. The flooring of many of the sheds is very defective in point of material, condition, &c., and the mangers likewise.

"With respect to the general condition of the sheds, it was on the whole very fair, though many of them are in want of whitewashing. The temperature and the condition of the atmosphere varied much, some of the sheds being hot, close, and oppressive ; but in a few, where there is fixed through ventilation, the temperature was cool, and the air was sweet and pleasant. Some cowkeepers appear to be governed in the management of their cows by the opinion that a high temperature conduces to the secretion of a larger quantity of milk, and this may be so ; but it is more than probable that in such a case quality is sacrificed in order to secure quantity, and thus the consumer becomes a sufferer from a hot and ill-ventilated cowshed. It being the opinion of your Committee that a cool temperature and efficient ventilation contribute to keep the cows healthy, the attention of the "local authority" should be drawn to the subject whenever the Privy Council shall have authorised the making of bye-laws, one of which might very properly provide for keeping a thermometer in a specified place in each shed. . . .

"At a few of the cowsheds a considerable quantity of dung was observed ; and it would appear from the reports of the sanitary inspectors that the removal of dung, &c., is not always effected with the proper regularity, though every cowkeeper engages, as a condition of the renewal of his license not being opposed by the Vestry, "to have all solid manure . . . removed from the premises at least three times in every week, before 8 o'clock in the morning." As there is at present no penalty for default, the due execution of this engagement depends simply on the good faith of the licensee, or, it may be, on the obedience of his employés.

"The sheds vary much in point of suitability of site, construction, &c. With few exceptions the premises have not been designed for the use to which they are applied, and many of them are unsuitable, being nothing more than the ground floor of stables, the upper portions of which are sublet as dwelling rooms to private families. In other cases the shed is ceiled, the loft being used for storing fodder. In all these examples the shed is more or less hot, badly lighted, and offensive, owing to the difficulty of ventilating it in an adequate manner. Your Committee are strongly of opinion that the shed should in all cases be open to the roof ; and that in addition to fixed ventilation in the roof, there should, wherever it is practicable, be through ventilation over the heads of the cows. They were very favourably impressed with the satisfactory results attending the employment of pan-tiles in the formation of the roof, especially where the tiles are fixed without mortar, for while the rain is effectually excluded, an abundance of fresh air is admitted, apparently without draught, and with obvious advantage to the health of the cows. A few of the sheds stand in their own yards, and it is desirable that every cowshed should have a yard, in which the dung pit should be built. In two cases the dung pit is within the shed itself—there is no other place for it—and in

numerous other instances the dung is stored in ordinary pits, constructed for stable manure in mewses, and which are totally unsuitable for the purpose.

"Provision should be made for storing the fodder outside the shed, and the grain-pit should never be within the shed, where now, as a rule, it is found." . .

In a subsequent Report (dated Jan. 7th, 1879, and published as an appendix to my 15th Report for 1878 at page 114) your Committee stated the results of their attendance before the Magistrates on the annual licensing day, and two adjournments thereof, in substance as follows :—

"The views of your Vestry as to the necessity of giving each cow a fixed minimum amount of cubic and floor space, or, in other words, for limiting the number of cows to be kept in the several sheds, and for the improvement of the ventilation of certain of the sheds—those especially which are not open to the roof—were duly laid before the court, which, by its decisions, gave effect to them in nearly every instance. The Magistrates endorsed the opinion of your Vestry that the number of cows permitted to be kept in any shed should be specified on the license, and while in respect of most of the old sheds (viz., by limiting the number of cows to the maximum fixed by your Vestry) they adopted the "800 cubic feet" rule, which for some years they have acted on in the case of newly-licensed sheds, they declined in other instances to be bound by a hard and fast line, upon the ground that it would not be right to interfere suddenly with a man's business by reducing the number of his cows much below what he had been accustomed to keep. In most of these excepted cases, however, the Justices announced their intention of requiring the number of cows kept to be reduced next year, in conformity with your Vestry's recommendations.

"In several cases, the Justices refused to renew the license until the flooring of the loft over the shed, and which separated it from the roof of the premises, had been removed; and your Committee have satisfaction in reporting that not only has a great improvement in ventilation, &c., been thus effected in several of the sheds, but also that the licensees themselves more or less frankly admit the fact though it is alleged that the cooler and better ventilated condition of the sheds has had the effect of diminishing the supply of milk by the cows—a not unmixcd evil, perhaps, from the consumers point of view!

"For the reasons stated in their previous report, your Committee did not think it advisable to deal with any other questions than those of space and ventilation this year. In these respects a good work has been successfully begun, and next year your Committee hope to see it carried still further, either by regulations to be framed by the Metropolitan Board of Works (as "Local Authority" under sec. 34 of the Contagious Diseases (Animals) Act, 1878) or, if necessary, by the independent action of your Vestry

"The Justices laid down a rule that horses are not to be kept in the sheds; in other words that cowsheds should be used as cowsheds only, and not as stables, &c.; a view your Vestry had long ago adopted.

“DAIRIES, COWSHEDS, AND MILK SHOPS ORDER, 1879.”

The first Order by Her Majesty's Privy Council under the above title, and made under the provisions of The Contagious Diseases (Animals) Act, 1878, was issued in February. It was revoked in July, and another Order in an improved form issued in its place.

The Order provides for the Registration of Cowkeepers and Dairy-men, and it is now not lawful for any person to carry on the trade of a cowkeeper, dairyman, or purveyor of milk unless he is registered as such under the Order, viz., with the “Local Authority.” (The Local Authority under the Act, in London—the city only excepted, is the Metropolitan Board of Works, hereinafter referred to as the Board.)

It is not lawful, moreover, for a cowkeeper or dairyman to begin to occupy any “building” for the purpose of the trade without first giving one month's notice in writing to the Local Authority of his intention so to do, nor until he first makes provision for the lighting, ventilation (including air space), cleansing, drainage, and water supply of the same, to the “reasonable satisfaction” of the Local Authority. Nor is it lawful for any person following the trade to occupy any building, whether so occupied at the making of the Order or not, if, and so long as the lighting, ventilation, &c., are not such as are necessary or proper (*a*) for the health, &c., of the cattle (*b*) for the cleanliness of milk vessels, and (*c*) for the protection of the milk against infection and contamination. Of course the necessity of obtaining a license for premises intended to be used as a cowshed in the Metropolis is not superseded by the Act or the Order.

The Order authorises the Board to make regulations for “prescribing and regulating” the cleansing of dairies, cowsheds, milkstores, milkshops, and milk vessels; and it directs that the milk of diseased cows may not be mixed with other milk; nor be sold or used for human food; nor be sold or used as food for swine or other animals until it has been boiled.

The Order forbids a cowkeeper, dairyman, &c., to take part, or allow any person to take part, in carrying on his business while he or any such person is suffering from a “dangerous infectious” disease, or has recently been in contact with a person so suffering; and the cowshed, dairy, &c., may not be used for any purpose incompatible with the

proper preservation of the cleanliness of the premises and of the milk vessels, or in any manner likely to cause contamination of the milk therein.

I have thought it desirable to give the above resumé of the Order as an introduction to a few observations on the Regulations, &c., framed by the Local Authority, and now in force throughout the Metropolis.

And first I would remark that, although the 34th section of the "Contagious Diseases (Animals) Act, 1878," which authorises the Privy Council to make the Order, enables the Council to endow the "Local Authority" with power to frame regulations for "prescribing and regulating the lighting, ventilation, cleansing, drainage, and water supply of dairies and cowsheds," the Council have given the Local Authority power to make regulations for "prescribing and *regulating*" the "*cleansing*" only, of dairies, cowsheds, milk shops, and milk vessels; and the Middlesex magistrates have actually confined themselves to making two simple regulations for this purpose. The Order enables the Local Authority to "*prescribe*" but not to make *regulations* for the "lighting, ventilation, drainage, and water supply" of cowsheds, dairies, &c., and this the Board (and the Surrey magistrates also) have done, as well as they were able, by setting out the "Provisions which it is necessary shall be made in all dairies and cowsheds," in compliance with the sections 6 and 7 of the Order.

The "Regulations" of the Board, therefore, consist, firstly, of certain "Provisions for lighting, ventilation, drainage, and water supply," which may be regarded as a standard of what the Board will require for its "reasonable satisfaction;" and, secondly, of "Regulations" proper as to the "*cleansing* of dairies, cowsheds, and milk shops.

These Regulations, so far as they go, are such as are reasonable, and the due carrying-out of them cannot fail to be attended with good results.

But further interest attaches to the "Provisions for lighting, ventilation, cleansing, drainage, and water supply of dairies and cowsheds," which, though falling short—perhaps unavoidably—of sanitary requirements, nevertheless present some valuable features; *e.g.*—To ensure "sufficient ventilation or air space for the health and good condition of the cattle; an adequate provision of floor and cubic space is enjoined, the air space being "at least 800 cubic feet in respect of every animal

. . . the height of the shed in excess of 16 feet" not being taken into account in estimating the cubic space. I need hardly remind your Vestry that 800 cubic feet of air space is the standard amount adopted by your Vestry, and which for some years has been exacted by the Justices in respect of new cowsheds in this parish. Henceforth the requirements of your Vestry in this important particular will have to be carried out in all sheds, and the rule will apply throughout the Metropolis.

Among other important "provisions" are those relating to the paving of the sheds with "impervious material" sloped to the drain, &c.; and to the erection, *outside the shed*, of properly constructed receptacles for receiving dung and litter, and for storing any brewers' grains intended for the animals, and also for a proper water supply. But the prescribed (minimum) quantity of water* (12 gallons for each cow lawfully kept) is insufficient for giving due effect to the regulation for "cleansing" the shed, though the regulation injudiciously limits the compulsory cleansing to "once a day." The "provisions" for the lighting, paving, water supply, &c., of dairies are good as far as they go, and if properly carried out will prove useful for securing the milk against contamination, &c.

Already we have been enabled to test the sanitary value of the Order in Council in one respect, viz., by successfully prosecuting a dairyman under the section (9) referring to the prevention of contamination of milk. (*Vide* page 68).

It may be conceded that the Regulations are not all that could be desired, and it will be apparent on the face of them that they do not carry out all the powers contemplated in the 34th section of the Act. The reason, however, is plain. The Privy Council have ~~permissive~~ power to make "Orders" as they "think fit" for certain specified "purposes, or any of them:" among others "for authorising a local authority to make regulations" for the purposes named in the section, "or any of them," and as a matter of fact the Council have thought fit to limit the powers to be conferred on local authorities by the order within narrow bounds.

The Metropolitan Board of Works have done as much, perhaps, as could be expected, under the circumstances, to give effect to the intentions of the legislature in the "Regulations" lately issued, and the

* The daily supply of water by the Companies averages 30 gallons per head of the population.

Surrey Magistrates, who are the Local Authority for the county of Surrey, as before stated, have followed suit. It is to be regretted, however, that the Middlesex Magistrates should have taken so narrow a view of their duties under the Act and the Order, and—thus setting an example which is but too likely to be followed by other Provincial (especially rural) Local Authorities—contented themselves with framing two meagre “regulations for prescribing and regulating the *cleansing* of dairies and cowsheds” (under clause 7 of the Order), and not have adopted any “standard of requirements” for the guidance of their officers (whomsoever these may be); so that it will be difficult for interested persons to know what is necessary to be done for the “reasonable satisfaction” of the Local Authority in respect of the lighting, ventilation, drainage, and water supply of the dairies and cowsheds in extra-metropolitan Middlesex. The probability, therefore, is that nothing will be done, and that numerous dairies and cowsheds, from which London obtains a large part of its milk supply, may, for the present at least, remain *in statu quo ante*.

It would not be difficult to suggest particulars in respect of which the regulations of the Metropolitan Board of Works might be made more efficacious in accordance with the highest requirements of sanitary science. But even as they are, I have no doubt they will lead to considerable improvement in our cow-sheds. The regulations, and those framed by the Surrey Magistrates, are based on a code of “proposed bye-laws for regulating Metropolitan and Urban cowsheds and dairies,” published in 1876 by the Society of Medical Officers of Health.

I trust I may be pardoned for referring to the circumstances under which the subject came before the Society. Having in two papers read in 1874 and 1875, dealt with the subject of the slaughter-houses and contributed in some slight degree, as I hope, to the improvement of those establishments by promoting the formation of a code of good bye-laws, and by striving in this parish to get the bye-laws carried out in the letter and in the spirit, I then turned my attention to the subject of the cowsheds, and in December, 1875, I read a paper thereon before the Society. In this paper I first gave formal expression to those views on the subject of dairies and cowsheds, with which your Vestry are so well acquainted, pointing out “the considerations which in my judgment called for the intervention of the law.” I stated we had

evidence that "disease in man may be caused through the agency of milk : (1) By insanitary conditions in the cowshed or in the dairy, viz., by the absorption by the milk of sewer gas, or the products of excremental decomposition : (2) By the pollution of water : (3) By the use of improper or unwholesome food for the cows : (4) By disease derived from the *employès* in the cowshed or dairy ; (5) By disease affecting the cows themselves." I stated, moreover, the proper subjects of bye-laws, viz. : (1) The position, construction, and sanitary condition of the sheds, including questions of cubic and floor space, lighting, ventilation, drainage, paving, &c. : (2) Everything relating to the health and management of the cows, including quarantine arrangements, the isolation of sick animals, the quality and the storage of the food : (3) The sanitary condition of the dairy, and of the vessels used for receiving, storing and distributing milk ; and the health of the persons engaged in the conduct of the business."

In a draft code of "proposed bye-laws" I dealt with all these subjects, and having in view the importance of getting "uniform regulations," I suggested the desirability of power being conferred on the Metropolitan Board of Works to enable the Board as "Local Authority" to form a code of bye-laws. The Society referred my paper and proposed bye-laws to the Council, and ultimately adopted the bye-laws in the form in which they appeared in my Annual Report for 1876.

I cannot conclude this section of my report without expressing my sense of the valuable support your Vestry, and notably the Works, Sanitary and General Purposes Committee, have invariably accorded me in my efforts not only to improve our own licensed cowsheds, but also to bring all cowsheds and dairies under regulation by bye-laws. Without that support, and the adoption of a standard, which has been as far as possible enforced in our local cowsheds, I could have done little ; and it is but just, while putting on record a sketch of some of the steps by which a great sanitary improvement has been effected, that due credit should be awarded to your Vestry for the leading part you have taken in bringing about a settlement of the question.

BAKEHOUSES.

The special duties that devolved on the officers of your Vestry under the Bakehouses Act were transferred on the 1st of January, 1879, to

Government Inspectors under the operation of the Factory and Workshop Act, 1878. Nevertheless, as a part of their ordinary work, the Sanitary Inspectors have regularly visited the bakehouses, and there can be no doubt that a continuation of these periodical inspections is desirable in the interests of public health.

The bakehouses are about 125 in number, 71 north and 54 south of Uxbridge Road.

DUST REMOVAL.

The collection of ashes and other refuse from our 20,000 houses and other rated dwellings has been carried out on the whole very satisfactorily during the past year, the complaints having been few in number as compared with the old "contract" times.* The one thing needful for complete success is a systematic call at every house on a given day in each week. But it should be understood that if, through the default of domestics or other cause for which your Vestry's servants cannot be held responsible, the receptacle is not emptied on the proper day, no further attention can be given until the same day in the following week. There is good reason to believe that the annoyance to which householders are exposed from the supposed neglect of the dustman not seldom arises from the refusal of servants to allow the dust to be taken away at an "inconvenient" time. Also, that complaint of nuisance in connection with dust-bins is generally due to the improper use of these receptacles for the storage of vegetable refuse (which should be first dried at the back of the kitchen fire and then burned), and even of animal matter—bones, meat, pot-liquor, &c. It may be deemed a fair question whether those who thus mis-use the dust-bin, and then complain of your Vestry's "neglect," should not be held responsible for the creation of a recurring nuisance?

REMOVAL (OR *NON*-REMOVAL) OF STABLE MANURE.

In former annual reports I have referred to the nuisances arising from the neglect of the owners of horses to remove with sufficient frequency and regularity the contents of dung pits, in conformity with the regulations of your Vestry, which require the pits to be emptied three times a week, viz., on alternate days; though as a matter of fact the refuse is removed far less frequently and at irregular intervals. I

* *Vide* Table VI.A. (Appendix.)

also suggested the desirability of your Vestry undertaking the removal of the manure, &c., as the law permits you, with the sanction of the owner, which probably it would not be difficult to obtain if it were understood that the penalties for non-compliance with the regulations would be enforced. The addition of the manure would give value to other refuse matter as slop, dust, &c., and as it is most desirable on sanitary grounds that the regulations should be carried out strictly, I trust steps will be taken to give effect to my suggestion. That stable refuse has an appreciable value is obvious, for a tender has been accepted for the purchase of the stuff from your Vestry's wharves and depôts for one year, for the sum of £70. There are nearly 150 mews in this parish, and the value of the stable refuse must be very great in the aggregate, though the produce of a single stable can be of little worth to the proprietor or his coachman. I cannot but believe therefore that it would pay to collect the stuff as proposed, and at the least I would urge a fair trial of the plan under the direction and supervision of the Wharves and Plant Committee.

Proceedings were taken in a few instances against offenders for systematic neglect to remove accumulations of manure, &c., and in two instances a fine of twenty shillings was inflicted. In other cases, however, the magistrates required the defendants to pay the costs only (one shilling!) although the offence had been glaring and continuous. The reason given for this leniency was that the penalty imposed by the Act under which your Vestry's regulations had been framed, viz., twenty shillings a day, is "too high"—a matter for which, however, the magistrates cannot be held responsible, their duty being simply to carry out the law.

REMOVAL OF OFFENSIVE MATTER.

The subject of the conveyance of offensive matter through the parish has engaged a good deal of attention. The greater part of such matter comes from stables and cowsheds, the refuse from cowsheds being, as a rule, taken to Chelsea and barged away on the river. The licensee of a cowshed, when he gives your Vestry notice of his intention to apply to the Justices for a renewal of his license, pledges himself to remove all manure, &c., from his shed three times in the week, and before eight o'clock in the morning. From time to time, however, the Inspectors have had occasion to report dung-carts going river-wards

too late in the day, and they have cautioned the drivers and the cow-keepers also. One of two courses may be suggested by way of trying to put a stop to the annoyance. The renewal of the license of offending cowkeepers may be opposed, or proceedings may be taken to enforce a penalty under the 219th section of "The Kensington Improvement Act," which relates to the "conveying of offensive matter at improper times." But before this can be attempted, your Vestry must frame regulations and fix certain hours within which only it shall be lawful to remove "offensive matters," and this is about to be done by the Law and Parliamentary Committee. It is doubtful, however, whether your Vestry have any power to interfere in the matter complained of;—that is, whether the carting of cow-dung through the streets after, say 9 or 10 o'clock in the morning, is an offence at law any more than the carting of stable manure? Over the hours for the removal of the latter we have no control, though the state in which it is sometimes carted is very offensive; but with respect to the removal of manure from licensed cowsheds, we can at the least bring moral force into operation in order to prevent annoyance to parishioners. The whole question is a wider one than appears at first sight, for "regulations" might possibly be made to apply to the conveyance of "offensive matter" of many descriptions, *e.g.*, the refuse from slaughter-houses, fishmongers', poulterers', and greengrocers' premises, marine stores, &c.

NECESSARY ACCOMMODATION.

No progress has been made during the year in this matter; not one additional urinal having been provided to supplement the very insignificant number already in existence. All admit the necessity of public accommodation for both sexes; but the difficulty has been to provide sites free from personal objection. Thanks to the public spirit of one ratepayer, and subject to an arrangement with the governmental authorities, an urinal will shortly be erected where it is much needed, viz., in High Street, Notting Hill, west of Palace Gardens.

LEGAL PROCEEDINGS.

Recourse was had to legal proceedings to enforce the orders of your Vestry somewhat more frequently than usual during the past year. If "notices" were rigidly followed up, the necessity of going into

Court would in course of time seldom arise. But the law's delays are very harassing to public officers, whose valuable time is often wasted in fruitless attendance at the Police Court. Owing to the number of "charges," the slowness of the proceedings, and repeated adjournments, there is much delay in getting serious nuisances, dangerous to health, and it may be to life, abated with the requisite speed. Magistrates, moreover, ignoring the fact that much time has been unavoidably taken up in complying with legal forms before an appeal is made to them, too often allow an unreasonably long period for the execution of sanitary works that might be carried out in a few hours, or a day or two at most. I am inclined to think it would be a good plan were your Vestry to exercise your powers under the Sanitary Acts, and to carry out necessary works at the cost of the parties liable, laying an embargo on the 'rent' to recoup the cost of the work done and the necessary supervision.

DAIRIES, &c., ORDER, 1879.—Proceedings were taken against a dairyman, under sec. 9 of this Order, for allowing his wife to take part in the conduct of his business while she was nursing members of her family suffering from an infectious disease. When the dairy was visited the proprietor, two of his grown-up children also, and two lodgers were found to be suffering from small-pox; and it transpired that one of the dairyman's children had already died from this disease, though in the medical certificate of the cause of death reference was made to the secondary disease only (congestion of the lungs). The wife of the dairyman and the wife of one of the lodgers were attending to the business of the shop in the intervals of their ministrations in the sick chambers. The dairyman had thus rendered himself liable to a penalty of £20, but as all the sick persons had consented to go to the hospital, the Order in Council, moreover, being a recent one, with which it was possible the dairyman was not well acquainted—he also having suffered heavily in purse and person from the outbreak—the magistrate took a lenient view of the case, and mitigated the penalty to twenty shillings.

CONVICTION FOR KEEPING SWINE ON "PROHIBITED" PREMISES.—The defendant (since deceased) was the only person in "the Potteries" who had persisted in keeping pigs on prohibited premises. She had been fined on several occasions, and was once more mulct in a penalty of forty shillings. The practice of keeping swine as a regular business

is now at an end in Kensington, though a few pigs are still found from time to time in some of the private mews in this parish—not in styes, but running loose and foraging on vegetable refuse, &c. Generally the pigs are removed as soon as a notice is served on the owner, and that is as soon as they are discovered by the Inspector; but this is not always the case, and proceedings were taken in two cases some time ago, with a view to get rid of pigs in Lonsdale and Ledbury Mews. The magistrate, however, dismissed the summons in both cases, and congratulated the defendants on having discovered how to keep pigs without creating a nuisance, and without cost, the animals, it being alleged, subsisting on the food which fell under the mangers, and which otherwise would have been wasted. Should a suitable case arise, I am of opinion that the question should be again tried.

Reference has already been made (at page 57) to the fact that several licensees of SLAUGHTER-HOUSES were fined for breaches of the bye-laws; and to convictions for disobedience of your Vestry's regulations for the periodical removal of stable manure (page 66.)

CONVICTION FOR TRANSMITTING INFECTED CLOTHING.—Proceedings were taken to try whether a stop might not be put to the dangerous practice of laundresses carrying on their business while members of their families are suffering from an infectious disease?

The case arose in this way.—A boy contracted small-pox, and was nursed at home in a front parlour by his mother and his aunt, who carried on the business of a laundry in the basement of the house. The parents refusing to let the boy go to hospital, were forbidden to carry on the business, or to send home the customers' linen until it had been disinfected. The business was carried on as usual, however, and the linen having been sent home without previous disinfection, the question arose whether the linen had been "exposed to infection" so as to make the "transmission" of it an offence under section 38 of The Sanitary Act, 1866? The case received a very attentive hearing from Mr. Bridge, who in giving his judgement said, that although he was not prepared to go so far as to say that a laundry, where the premises were large, could not be carried on with safety, even though there might be a case of infectious disease in the house, the presumption in fact and in common sense was that there was danger in the practice. It was clearly a duty owing by a laundress to the public to discontinue her business immediately on a dangerous infectious disease occurring in her house, and not to send to the homes of her customers things that had been exposed to infection, as in the case under consideration. He held that from the subtle nature of the infection, from the relative position

of the sick room and the laundry, and from the communication established between the two by the movements of the boy's relatives, there had been an exposure of the washed things to infection : those things were sent home without previous disinfection, and the offence was such an one as the section contemplated. This, however, being a first case, and the Vestry not wishing to press the matter heavily against the defendant, he should impose a mitigated penalty ; but, having regard to the great importance of the subject in a public point of view, he desired to state that, while each case that might be brought before him would be dealt with on its merits, he should not hesitate in any future case, when the offence was fairly brought home, to inflict the full penalty of five pounds.

RICHMOND GARDENS.—The wretched and dilapidated group of houses lying back from New Street, Brompton, which bears this delusive title, had long been a source of considerable trouble to the Inspector of the district. During 1878 the tenants lived rent free, no owner appearing on the scene, and day by day the houses and back offices fell into a more and more unwholesome and dilapidated condition. It appeared useless to serve notices for the abatement of nuisances under the circumstances, I, therefore, gave a certificate under Torrens' Act to the effect that the houses were unfit for human habitation. Your Vestry's surveyor inspected them, and submitted a report of the works necessary to make them fit for habitation. Your clerk, however, was unable to find an owner on whom to serve copies of our reports, and as a *dernier ressort* he applied to the Magistrate at the Hammersmith Police Court for an order to close the houses. The magistrate refused to grant an order, and directed summonses to be taken out against the "owner," and to be affixed to the premises. This was done without effect, until suddenly a claimant turned up and at once took steps to eject the tenants, thus substantially complying with our requirements.

MORTUARY.

"A public mortuary is still among the sanitary *desiderata* in Kensington, but negotiations are in progress, the issue of which will probably have the effect of removing the opprobrium from this important parish of being without a suitable temporary resting place for the dead—necessary alike for the convenience of poor parishioners to whom such accommodation would often prove a great boon, and for the reception of the bodies of unknown persons who may die or be killed in the public streets. Hitherto, in such cases of sudden or

accidental deaths of unknown persons, the bodies have been deposited in the Workhouse mortuary. This, however, is not a suitable place; and the use of it, moreover, is objected to by the Board of Guardians. Several years ago a Committee was appointed to give effect to the resolution of your Vestry to provide a mortuary, but nothing came of the labours of the Committee, as it was found impracticable to obtain a site. There is one site, however, which has always appeared to me superior to all others, viz., the disused Parish Churchyard, at the rear of the Vestry Hall; and it is highly satisfactory to me to know that the overtures which have now at length been made by your Vestry to the Churchwardens for a grant of that site, have been met by those gentlemen in a public spirit, which encourages the belief that, if no unforeseen obstacles should arise, we may hope before very long to see the building of a mortuary taken in hand."

In the above terms, strictly applicable to the present state of affairs, I referred in my annual report last year to the subject of a public mortuary. Some little progress, however, has since been made, for at a conference between your Vestry's Works, Sanitary and General Purposes Committee and the Churchwardens, held this year, the latter assented in principle to the proposition for the erection of a mortuary on the disused burial ground attached to the Parish Church, the exact site and the extent of the proposed buildings, moreover, having been provisionally settled. Your Vestry subsequently requested Mr. Walker, the Architect of the New Vestry Hall, to prepare a design and plans for the mortuary, to be submitted to the Churchwardens for approval in accordance with their request. The matter now awaits their decision, which I doubt not will be conformable with the true interests of the living, and with due respect for the dead.

DISINFECTION.

During the parochial year ended March 25th, 1879, a large number of articles of bedding, clothing, furniture, &c., were disinfected, mostly at the cost of your Vestry, by Messrs. Wellan & Co., the contractors, the process having become necessary on account of infectious diseases; the weight of the articles was 167 cwt., their number 3822, and the cost of disinfecting them £161 0s. 0d. Large as this outlay may appear, it is probably less than would have been incurred had your Vestry provided a

disinfecting chamber and the necessary staff. An establishment once provided must be kept up, irrespective of the prevalence of infectious diseases, whereas, under the present system, we pay only for results. The work has been well done and without leaving room for suspicion that any disinfected articles had retained infective power.

Your Vestry's officer to whom the duty has been delegated disinfected 222 rooms in 183 houses during the year. No charge is made to the poor; but a small fee is required from those who are in a position to pay, to cover the expense of the process.

BATHS AND WASH-HOUSES.

One step in advance has been taken during the year to give effect to the sanction of the Local Government Board enabling your Vestry to adopt the Acts for providing baths and wash-houses. Commissioners have been elected and negotiations have been opened for the purchase of a site at Notting Hill.

REGISTRATION, &c., OF "LODGING HOUSES."

The question of making application to the Local Government Board to declare the enactment contained in the 35th section of the Sanitary Act, 1866, and other Acts extending the same, to be in force in this parish, was under the consideration of the Special Purposes Committee for several months, having been referred to them for reconsideration by your Vestry towards the close of 1878.* The section enables the Nuisance Authority to frame regulations—subject to the sanction of the Local Government Board—for the registration, inspection, &c. of houses let in lodgings or occupied by members of more than one family, of which there must be some thousands in this parish. Before coming to a decision on the subject, the Committee requested me to ascertain to what extent the Act had been adopted in other parishes in the Metropolis and throughout the country generally; and the result of my enquiries having been to show that the Act had been adopted in very few places, either metropolitan or provincial, and that in the majority of such places the provisions of the section had been carried out for the most part in a somewhat perfunctory manner, the

* The Committee had dealt with the subject on a previous occasion. Vide Annual Report of the Medical Officer of Health for the year 1877 (page 51).

Committee advised your Vestry that it did not appear expedient at the present time to make the necessary application to the Local Government Board. The Committee were influenced to some extent in coming to this decision by a statement that the Board had under consideration the desirability of framing model regulations for the guidance of Sanitary Authorities, the issue of which it was thought desirable to await.

At about the same time that the Committee began to consider this subject I had brought the provisions of the Acts under the notice of the Society of Medical Officers of Health, which, after full consideration, resolved (1) That the Acts are practicable; (2) That it is desirable they should be put into operation in London and other large towns; (3) That it is desirable to have an uniform code of regulations for the Metropolis; and (4) That it is advisable the Society should undertake the framing of such a code.

The Council of the Society, to which the matter was referred, requested me to draft a code; and the draft so prepared, having been approved by the Council, and subsequently by the Society, it was sent to nearly two hundred medical officers of health throughout the kingdom, suggestions by way of amendment, &c., being invited. All such suggestions having been duly considered, the Council finally submitted the draft, as amended, to the Society, by which it was approved; and, in May last, the regulations were published "for the guidance of Urban Nuisance Authorities." I brought these proposed regulations under the notice of the Special Purposes Committee, by which they were approved, and with a view to their being submitted to the Vestry for adoption. But, as before stated, the Committee, on learning to how slight an extent the 35th section of the original Act had been carried out during the thirteen years it had been in existence, thought it right to advise your Vestry not to proceed any further in the matter at the present time.

WATER SUPPLY.

The water supply of Kensington is in the hands of three Companies (West Middlesex, Chelsea, and Grand Junction), which obtain water from the Thames above tidal influence, viz., at Hampton, Ditton, and Molesey.

Professor Frankland, F.R.S., in his annual report to the Registrar-General on the monthly analysis of the waters supplied by the Metropolitan Water Companies during 1878, furnishes valuable information, which I propose to summarise as usual. The average daily supply by the eight Companies was nearly 130 million gallons. Of this quantity the Professor says 65 million gallons were often much polluted with organic matters of animal origin; 56 million gallons were occasionally so polluted, but much less intensely; whilst only 8 million gallons were uniformly delivered in a pure and wholesome condition:—the water, namely, supplied by the Kent and Colne Valley Companies, and by the Tottenham Board of Health; which, drawn from deep wells, was uniformly wholesome throughout the year, and of most excellent quality for dietetic purposes.

It is not a little interesting to note that of the waters supplied from the Thames the Chelsea Company delivered the best—for it is not many years since this Company occupied a position not very dissimilar to that assigned to the Grand Junction Company in 1878, namely, that of distributing the worst.

The average condition of the river waters distributed to London was exceptionally bad—they have seldom been so intensely polluted as in 1878, owing, doubtless, to the more frequent scouring out of the sources of pollution of the Thames and Lea by floods. Referring to the “organic elements” which constitute the pollution specially alluded to, the late Rivers Commissioners in their report on the domestic water supply of Great Britain, express an opinion that “potable water which contains organic matter, even only partially derived from animal sources, should not yield much more than 0·1 part of organic carbon in 100,000 parts of water,” whereas the “organic elements” in the river waters, consisting chiefly of “organic carbon” at the maximum of pollution, greatly exceeded the standard. Only once since Dr. Frankland commenced his observations on Thames water had it been so much polluted by organic matter as during 1878. The river was often in high flood even in summer, and much filthy matter, ordinarily retained in sewers and cesspools during the summer months, was swept into the river. The Lea water was superior to the Thames; nevertheless, in June and December it also was unsuitable for dietetic purposes; but the New River Company supplied the water of this river in much better condition than the East London Company.

The following table shows the proportions of organic elements (organic carbon and organic nitrogen) in the waters supplied by the local Companies during the year; the Kent Company's water being taken as a standard of comparison ;—

Source.	Company.	Maximum.	Minimum.	Average.
Deep Wells	Kent - - -	1·8	0·85	1·3
River Thames	{ West Middlesex -	5·9	2·9	4·2
	{ Chelsea - - -	5·2	2·9	4·0
	{ Grand Junction -	7·8	3·1	4·4

The evidence of "previous animal contamination" in the river waters is of importance, owing to the likelihood of morbid matter derived from animal excreta being carried down the rivers and distributed to the consumers.

Owing to the floods the river waters were often so much polluted as to be extremely difficult to filter, whilst the deep well waters, having been exhaustively filtered and purified by percolation through great thicknesses of porous strata, maintained their usual brilliancy and purity.

The following table shows the results of observation as to the degree of efficiency of filtration of Thames water by the Local Companies, the examinations being made monthly :—

Names of Companies.	Number of occasions.			
	When clear and transparent.	When slightly turbid.	When turbid.	When very turbid.
West Middlesex	11	1	0	0
Grand Junction	8	3	1	0
Chelsea	11	1	0	0

When examined by the microscope the sediment deposited by turbid water, on standing, is almost always found to contain numbers of living and moving organisms. The subjoined table shows how often such organisms were noticed in the water supplied by the local Companies at the monthly examinations during 1878 :—

Names of Companies.	Number of occasions when moving organisms were found.									
	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878
West Middlesex	0	0	0	0	0	0	0	0	0	1
Grand Junction	4	1	1	2	3	5	7	3	3	3
Chelsea	3	2	2	3	2	7	4	4	1	0

The Chelsea Company's water takes precedence of that of the West Middlesex Company, which has hitherto borne the palm for comparative excellence, but in 1878, for the first time in ten years, was once "slightly turbid," and was once found to contain "living and moving organisms." Among other advantages enjoyed by the consumers of deep well water, uniformity in the temperature of the water is not the least. The temperature of such water even in the hottest weather never interfered with its palatability. The range of temperature was only $11^{\circ}2$ Fahr., the maximum temperature in July, August, and September being $56^{\circ}1$, and the minimum in February $44^{\circ}9$. The temperature of the Thames water on the contrary varies considerably: during 1878 the range was $29^{\circ}0$ Fahr., viz., from a minimum $39^{\circ}7$ in January and December to a maximum of $68^{\circ}5$ in July. At the latter temperature the water tastes vapid and disagreeable. All the waters were harder in 1878 than in 1877, and the only water delivered in London fit for washing was that of the Colne Valley Company, which is softened by Clark's process before distribution, and is thus rendered suitable for washing, whilst its excellence for dietetic purposes is not thereby impaired. All hard water *must* be softened before it can be used for washing linen; and when it is softened in detail by the laundress the operation costs for an equal volume of water at least eighty times as much as it costs when conducted on a large scale by a water company. The average hardness of the Thames water as delivered was $20^{\circ}3$ or parts in 1878, as against $19^{\circ}5$ or parts in 1877: that of the softened water of the Colne Valley Company being $7^{\circ}3$ or parts.

Of the solid matters contained in the water by far the larger proportion is saline and harmless when the water is used for dietetic purposes, and a large part of this may be removed by the softening process already referred to. It is the organic substances—a small proportion of the total solid matters—that are objectionable and are dangerous to health, consisting as they do to a great extent of the excreta of men and animals. The most important constituents of organic matters are carbon and nitrogen, and these are therefore the expression of the relative quantity of organic impurity present in the waters. The river was much more polluted by organic matters than it was in 1877, and in the months of January, May, June, July, September, November and December, it was so much polluted as to be unfit for dietetic purposes.

The subjoined table shows the average for 1878 of solid impurity, &c., the numbers relating to 100,000 parts of each water :—

NAME OF COMPANY.	Temperature in Centigrade Degrees.	Total Solid Matters.	Organic Carbon.	Organic Nitrogen.	Ammonia.	Nitrogen as Nitrates and Nitrites.	Total combined Nitrogen.	Chlorine.	Total Hardness.	Proportionate amount of organic elements, that in the Kent Company's Water being taken as 1.
Kent... ..	11·8	43·50	·064	·015	0	·484	·499	2·51	28·4	1·3
West Middlesex ...	11·6	28·64	·216	·039	0	·178	·226	1·56	20·2	4·2
Grand Junction ...	10·5	29·15	·233	·038	0	·181	·219	1·55	20·2	4·4
Chelsea	11·0	28·12	·205	·030	0	·173	·204	1·57	20·0	4·0

The monthly Reports issued during the past year by Colonel Bolton, R.E., the “water examiner,” contain as usual much interesting information with reference to the state of the Thames at the several intakes; to the apparatus for filtration and supply; and to the subject of constant supply, &c.

Two of the local Companies, viz., West Middlesex and Chelsea are now able to supply effectually filtered water in ample quantity to their respective districts—having large reservoir capacity for subsidence, and being able to avoid taking in water during floods. The Grand Junction Company is constructing additional impounding and subsiding reservoirs at the intake at Hampton with the same object in view, and they are also increasing and improving their filter beds at Kew, so that ere long it is expected they will be enabled to supply water of the same quality with the other Companies.

With reference to filtration it appears that the rate should not exceed 540 gallons per square yard of filter bed each 24 hours, and at this rate filtration is said to be effectual. The filter beds, composed of varying thicknesses of different sorts of sand, shells, and of gravel screened to different sizes, and arranged in layers, have a total depth of about five feet.

As regards constant supply, not much progress has been made. The West Middlesex Company, however, are stated to be giving constant supply to a number of houses on the application of the owners, and to be fully prepared to extend the system as required. This Company is

also compelling constant supply to be received on all new estates and buildings, under the Metropolis Water Acts and Regulations, including the South Kensington and Earl's Court Estates ; and when "all-new" services are laid down constant supply is made compulsory by the Company. The Chelsea Company are giving a constant supply to a portion of their district—mostly outside Kensington ; but the Grand Junction Company have not yet moved in the matter. Should the Public Authority (Metropolitan Board of Works) see fit to exercise their right to demand constant supply it will of course be given, that is if the conditions by which the system is limited are complied with. But it appears that in some districts where the Companies have been earnest in their endeavours to enforce constant supply, they have had to put pressure on landlords, &c., to induce them to make the requisite alterations in the fittings. It would be well if the water Companies could be induced to exercise the powers they possess under Regulation 14, which reads as follows :—

"No overflow or waste pipe other than a 'warning-pipe' shall be attached to any cistern supplied with water by the Company, and every such overflow or waste pipe existing at the time when these regulations come into operation shall be removed, or at the option of the consumer, shall be converted into an efficient 'warning-pipe' within two calendar months next after the Company shall have given to the occupier of, or left at the premises in which such cistern is situate, a notice in writing requiring such alteration to be made."

The Companies, however, are too busy in looking after their trade interests to concern themselves much about the health of the people, which would be materially benefitted by the substitution of "warning or overflow pipes," made to discharge innocuously in the open, for waste pipes—connected, as these often are, with the House drain—the effect being pollution of the water by absorption of poisonous effluvia from the sewers, &c., to the danger of the health of the consumers. Could we abolish the waste pipe and ensure due attention to cleansing of properly constructed and properly placed cisterns, and have the water softened by Clark's process, there would be perhaps little practical objection to the present sources of supply. In practice, however, cisterns are often bad in construction, inconveniently placed if not inaccessible, and, from sheer neglect and want of covering, are allowed to fall into a condition of dirtiness little suspected, but which cannot fail to be a

source of ill health to water drinkers, especially in hot summer weather. It is of little avail that the Companies supply effectually filtered water if it is to be spoiled so soon as it enters the domestic receptacle, which is often disregarded as though cleanliness were of no account. The only remedy for this state of things is constant supply and abolition of cisternage.

GAS.

The subjoined tables from the quarterly reports of the Chief Gas Examiner exhibit at a glance the chief results (averages) of the daily testings of the gas supplied by the Gas Light and Coke Company made at Kensal Green, and examined at the testing station, 123, Ladbroke Grove, Notting Hill. Sulphuretted hydrogen, an impurity which is not tolerated in any degree, was absent on every occasion when the gas was tested; and ammonia was seldom found in the gas, and then only in fractional amount far below the permitted maximum.

1. With respect to the illuminating power. The maximum, minimum, and average illuminating power in standard sperm candles was as follows:—(Statutory standard, “sixteen candles.”)

	Maximum.	Minimum.	Average.
Quarter ended March 31st	19·5	16·2	17·5
Quarter ended June 30th	19·7	16·5	17·7
Quarter ended September 30th ...	19·5	16·0	17·4
Quarter ended December 31st ...	19·3	16·3	17·6
Averages, whole year	19·5	16·2	17·5

On no occasion during the year was the illuminating power lower than the prescribed standard.

2. As regards purity. Grains of sulphur per 100 cubic feet of gas. (Permitted maximum, 20 grains in summer, 25 in winter.)

	Maximum.	Minimum.	Average.
Quarter ended March 31st	22·8	9·8	15·8
Quarter ended June 30th	21·2	2·8	9·0
Quarter ended September 30th ...	37·4	6·0	11·3
Quarter ended December 31st ...	33·0	10·8	19·1
Averages, whole year	28·6	7·3	13·8

The average in respect of sulphur impurity was considerably better than required by the Acts in the first quarter; the maximum on one

occasion in the second quarter was exceeded (21·2 grains), but the accuracy of the return is disputed. In the third quarter there was an excess of sulphur on two occasions, the maximum being far above the Parliamentary allowance: and there was a smaller excess on several occasions in the fourth quarter, the accuracy of the official returns of the gas examiner, however, being disputed by the Company.

No complaint was made by private consumers, during the year, so far as I know, with respect to the illuminating power of the gas, and I believe your Vestry's Superintendent of street lighting is satisfied with the quality of the gas as supplied to the public lamps. The burners now in use in the street lamps consume 4·5 cubic feet of gas per hour, whereas the old burners consumed only three feet per hour, but notwithstanding this increased consumption (50 per cent.) and the consequent better illumination of the public thoroughfares, the cost is not greater than formerly under the system of a fixed annual payment per lamp.

In concluding my report I have the pleasurable duty once again of tendering my best thanks to the parochial officers generally for the cordial assistance I have received from them in carrying out the work of my department. The registrars of births and deaths, the vaccination officer, and the officers of the Guardians have on all occasions manifested the utmost readiness to co-operate with me, each in his own sphere of work, in measures for promoting the public health.

The members of the sanitary staff, moreover, have shown an earnest desire to carry out thoroughly the onerous and responsible duties of their position, and I gladly bear testimony to their zeal and diligence.

It only remains for me to express my grateful acknowledgments to your Vestry for the confidence you have ever reposed in me, and which has been of such essential assistance to me in carrying out the duties of my office.

I am, gentlemen,

Your obedient servant,

T. ORME DUDFIELD, M.D.,

Medical Officer of Health.

VESTRY HALL, KENSINGTON,

July, 1879.

ADDENDUM.

HOSPITAL TREATMENT OF INFECTIOUS DISEASES.

At page 25 (*ante*) I referred to a promise made by the President of the Local Government Board to a Deputation, consisting of delegates from London Vestries and District Boards of Works, represented by Mr. Lindsay as their spokesman, to deal with the subject of hospital treatment of infectious diseases in a "Poor Law Amendment Bill" during the then current session. Mr. Selater Booth has redeemed this promise, and by an Act* passed on the last day of the session the Metropolitan Asylums Board are now enabled, with the approval of the Local Government Board, to contract with any Vestry, &c., in the Metropolis (as the "local authority" acting in the execution of the Nuisances Removal Act, 1855, &c.) for the reception and maintenance in the hospitals of the Managers of any person suffering from any dangerous infectious disorder within the district of any such Vestry, &c.; and any person received into an hospital by virtue of any such contract, under the 15th section of the Act, will be deemed to be maintained in such hospital by the Vestry, &c., with whom the contract is made. It is further enacted that any expenses incurred by the Vestry, &c. (local authority), for the maintenance of any person under this section shall be deemed to be due from such person to the local authority, and may be recovered by the local authority from him or his representatives at any time within six months after his discharge from such hospital.

The powers thus given to the sanitary authority to contract for the maintenance in hospitals of non-paupers, is a round-about way of de-pauperising the relief afforded to such persons in the hospitals belonging to the Managers, which are essentially pauper establishments. The power given to the sanitary authority to recover from the sick person or his representatives the expenses incident to his treatment in the hospital may possibly be found useful in occasional instances; but, put plainly, it amounts to this—that the sanitary authority, having for the protection of the public health, succeeded in getting a person to consent to be isolated in a pauper establishment, side by side with paupers, may upon his discharge therefrom, or on his death occurring, proceed to recover from him or his representatives the costs incurred by them—on his account doubtless, but for the protection of the public rather than for the safety of the patient himself. If this power should be at all generally exercised by the Vestries, &c., it would more than neutralise any benefit likely to accrue from the discretion they now have to contract with the Managers for the reception and maintenance of non-paupers. It is therefore to be hoped that in any district where such power is

* The short title of the Act is "The Poor Law Act, 1879."

exercised very great care will be taken, so that payment may be exacted of those only who are well able to pay, and who may have sought the assistance of the Vestry, &c., in the removal of their sick. There is, however, really no reason why any person so situated should seek the assistance of the sanitary authority at all, for it is quite certain that the expenses incurred at any one of the hospitals belonging to the Managers in the treatment of a case of fever or small-pox, would, in a majority of instances, unless the patient died very speedily after admittance, considerably exceed the charge made at the London Fever Hospital, or at the London Small-Pox Hospital (which are *not* pauper establishments), viz., two guineas and four guineas, respectively, per case, irrespective of the duration of the patient's illness.

The 14th section of the Act seems to have been designed to afford the means of doing the same for *rural* sanitary districts that the 15th will do for the Metropolis if carried out, viz., depauperise relief in "infection hospitals," as it enables the Guardians of any Union, who are also the sanitary authority, to transfer any hospital or building for the reception of persons suffering from infectious diseases, vested in them as guardians under the Acts relating to the relief of the poor, so that it shall be vested in them as the rural *sanitary* authority of the union. In urban districts, where the sanitary authority is distinct from the poor law authority, the admittance of patients into hospitals supported out of the rates does not entail pauperisation.

AMBULANCES (*vide* page 29).—The 16th section of the Act confers on the Metropolitan Asylums Board power to provide ambulances for the conveyance of the infectious sick to the hospitals belonging to the managers; and all expenses incurred by them in the execution of this section, to such extent as the Local Government Board may sanction, will be paid out of the Metropolitan Common Poor Fund. At the present time, and in some parishes and districts of the Metropolis, the Vestries, &c., possess ambulances as well as the Boards of Guardians; in others (as in Kensington) the Guardians alone possess ambulances; and there may be some in which the Vestries, &c., only possess ambulances. As there are 39 sanitary authorities within the Metropolis and 30 Boards of Guardians, it would appear that should the Managers see fit, and find it practicable, to give effect to this section, a considerable economy might possibly be effected by substituting for the present scattered arrangements an establishment of ambulances connected with the existing hospitals, which are only five in number. The subject will in due time, I have no doubt, receive that careful attention from the Managers which its importance demands.

August, 1879.

T. O. D.

APPENDIX.

NOTE.—The forms for Tables I.—VI. were framed by
the Society of Medical Officers of Health with the
object of securing uniformity of Statistical returns

1

TABLE I.

Estimated population of Kensington at the middle of the year 1878, and in 10 previous years; number of inhabited houses; Births, Deaths, and Marriages (gross numbers).

Year.	Estimated Population.*	Number of Houses.	Registered Births.	Deaths †	Marriages.
1878.	153,600	19,719	4,607	3,120	1,331
1877	151,000	19,330	4,648	2,624	1,411
1876	148,000	18,944	4,499	2,836	1,417
1875	143,500	18,444	4,478	2,783	1,346
1874	138,000	17,667	4,356	2,696	1,311
1873	133,000	16,920	4,128	2,439	1,243
1872	127,400	16,206	4,041	2,225	1,132
1871	121,500	15,394	3,804	2,360	1,131
1870	116,350	15,279	3,705	2,473	892‡
1869	111,350	14,654	3,625	2,267	891‡
1868	106,350	14,029	3,522	2,232	984‡
Average of 10 years, 1868-77.	129,645	16,668	4,086	2,499	„

Notes.—Population at Census, 1871, 120,234.

Average number of persons per house at Census, 1871, 7.8.

Area of Parish in Statute Acres, 2,190.

* The population is estimated to the middle of the year. Between 1868 and 1871 inclusive, a yearly addition has been made to the population based on the known increase between the Censuses of 1861 and 1871. The same principle has been adopted with regard to the number of inhabited houses, in the absence of specific information on the subject, such as has been forthcoming since 1871. Some of the figures in this and subsequent Tables differ from those in former reports, as the result of a revision of the estimated population, based upon the best attainable information. The population at the Census, 1861, was 70,108.

† The actual number of deaths registered in the Parish was 3,097, and it includes 101 deaths of non-parishioners, which are retained as a compensatory allowance for the deaths of parishioners that may have taken place in general hospitals, &c., out of the Parish. The total, 3,120, is made up by the addition of 23 deaths of parishioners from small-pox and "fever," that took place at the hospitals of the Metropolitan Asylums Board.

‡ The returns of marriages for the years 1868-70, do not include those that took place at the Superintendent Registrar's Office, concerning which I have no information.

TABLE II.

Showing Birth and Death Rate : Deaths of Children, and Deaths in Public Institutions in 1878 and 10 previous years.

The Year.	Births per 1000 of the population.	Death Rate per 1000 living.	Deaths of Children under 1 year per cent. to Total Deaths.	Deaths of Children under 1 year per cent. to Registered Births.	Deaths of Children under 5 years per cent. to Total Deaths.	Deaths in Public Institutions
1878	30 0	20.3	26.5	17.8	46.3	414*
1877	30.8	17.3	25.3	13.9	40.8	354
1876	32.9	19.5	26.6	17.1	44.6	338
1875	31.2	19.4	25.0	15.6	40.3	338
1874	31.7	19.5	28.5	17.5	45.4	252
1873	31.4	18.3	27.0	15.9	40.0	272
1872	32.1	17.4	28.9	15.6	44.2	264
1871	31.3	19.4	25.0	15.0	41.6	252
1870	32.1	21.2	24.0	16.4	42.9	330
1869	32.5	20.3	+	+	+	313
1868	33.1	21.0	+	+	+	303
Average of 10 Years, 1868-77.	31.9	19.3	26.3	15.9	42.4	301

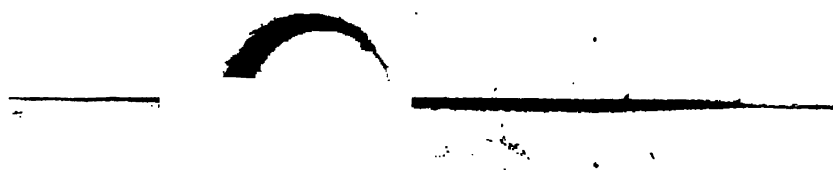


TABLE II.

Showing Birth and Death Rate : Deaths of Children, and Deaths in Public Institutions in 1878 and 10 previous years.

TABLE IV.

Showing Total Deaths from certain classes of Diseases and rate of mortality therefrom, &c.

Diseases.	Total Deaths.	Deaths per 1000 of Population.	Proportion of Deaths to 1000 Deaths.
1. Seven Principal Zymotic Diseases - - -	566	3.7	181
2. Pulmonary - - - (other than <i>Phthisis</i>)	636	4.1	204
3. Tubercular - - -	419	2.7	135
4. Wasting Diseases of Infants (<i>under 5</i>) - -	194	1.2	62
5. Convulsive Diseases of Infants (<i>under 5</i>) -	199	1.2	64

NOTES.

1. Includes Small Pox, Measles, Scarlet Fever, Diphtheria, Whooping-cough, "Fever," and Diarrhœa.
3. Includes *Phthisis*, *Scrofula*, and *Tabes*.
4. Includes Atrophy, Debility, Want of Breast Milk and Premature Birth.
5. Includes Hydrocephalus, Infantile Meningitis, Convulsions and Teething.

TABLE V.

Showing the number of Deaths in 10 years, 1868-77, from the seven principal Zymotic Diseases, and the number in 1878, &c.

DISEASE	1868	1869	1870	1871	1872	1873	1874	1875	1876	1877	Annual Average 10 years 1868-77.	Proportion of deaths to 1,000 Deaths in 10 years, 1868-77.	1878	Proportion of Deaths to 1000 Deaths, 1878.
Smallpox.....	4	6	8	120	68	1	0	0	8	84	29.9	11.9	24	3.8
Measles	84	27	70	64	43	38	121	23	128	54	65.2	26.1	53	17.1
Scarlet Fever	170	106	198	95	29	10	32	83	59	31	81.3	32.5	77	24.6
Diphtheria	*	9	14	11	14	11	26	23	17	10	13.5	5.4	20	6.4
Whooping Cough .	34	71	55	72	77	44	45	107	124	34	66.3	26.5	185	59.8
"Fever"	52	42	46	48	42	41	52	29	36	27	41.5	16.1	33	10.5
Diarrhoea.....	113	108	154	129	110	145	112	107	126	99	120.3	49.2	181	58.8
Total, KENSINGTON	457	369	545	539	383	290	388	372	498	339	418	167.7	573	181.0
Total, London ...	14,925	17,431	16,476	19,455	12,699	11,385	11,230	13,411	12,565	12,365	14,192	183	14,734	175
TOTAL, ENGLAND & WALES For 10 years, 1867-78*	1867 72,587	1868 97,352	1869 90,380	1870 100,497	1871 103,801	1872 91,743	1873 89,286	1874 88,200	1875 82,332	1876 75,506	Average 1867-76 10 years. 89,168	1867-76 178	1877 66,558	1877 133

* Not separately registered.

TABLE VI.

Inspectors' Report of the Sanitary Work completed in the year ended March 25th, 1879.

Sub-districts.	No. of Complaints received during the year.		No. of Houses and Premises, &c., inspected.		Results of Inspection.			House Drains.		Privies and W.C. s.		Dust Bins.		Water Supply.		Miscellaneous.						Regularly Inspected
					Orders issued for Sanitary Amendments of Houses and Premises.	Houses, Premises, &c., Cleansed, Repaired and Whitewashed.	Houses Disinfected after Infectious Diseases.	Repaired, Cleansed, &c.	Trapped or Ventilated.	Repaired, Covered, &c.	Supplied with Water.	New provided.	New provided.	Repaired, Covered, &c.	Cisterns (new) erected.	Cisterns Cleansed, Repaired and Covered.	No. of Lodging Houses registered under 35th Clause of Sanitary Acts, 1866.*	No. of Dust Complaints received and attended to.	Removal of accumulations of Dung, Stagnant Water, Animal and other Refuse.	Removal of Animals, &c., improperly kept.	Bakehouses.		Licensed Cowsheds.
N.W.	512	1202	485	408	24	176	114	62	81	4	32	53	8	66	...	1222	74	32	34	10		
N.E.	473	1252	446	373	32	119	62	33	52	2	27	61	6	79	...	917	56	17	42	8		
Centrl.	412	1142	400	263	29	97	59	45	49	3	29	45	16	52	...	852	60	11	27	4		
South	439	1164	416	295	98	112	84	52	63	4	38	62	19	71	...	1055	52	3	22	4		
Totals	1836	4760	1747	1339	183	50	319	192	245	13	126	221	49	268	...	4046	242	63	125	26		

* This Act has not been put into operation.

TABLE VIA.
Summary of Monthly Returns of Sanitary Work, &c., done by the Inspectors.

Date of Report.	Houses Inspected.				Mewes Inspected.				Slaughter Houses Inspected.				Cowsheds Inspected.				Bakehouses Inspected.				Offensive Trades Inspected.				Sanitary Notices Issued.			
	District.*				District.				District.				District.				District.				District.				District.			
	N.W.	N.E.	C.	S.	N.W.	N.E.	C.	S.	N.W.	N.E.	C.	S.	N.W.	N.E.	C.	S.	N.W.	N.E.	C.	S.	N.W.	N.E.	C.	S.	N.W.	N.E.	C.	S.
May 1, 1878	99	99	44	43	21	22	14	14	8	10	6	2	7	9	6	2	21	21	10	9	3	3	0	0	49	50	21	21
May 29 "	102	96	95	58	27	19	10	16	8	8	3	3	6	6	3	2	14	12	10	7	2	3	0	0	22	47	15	4
June 26 "	92	104	102	86	25	23	16	32	7	8	4	2	8	7	2	0	26	22	9	11	6	4	3	0	44	73	67	44
July 24 "	94	86	102	114	12	22	14	29	7	8	5	2	11	10	6	3	12	16	11	9	6	3	4	2	43	59	52	66
Aug. 21 "	86	92	91	93	20	18	12	28	8	9	5	2	9	12	5	3	17	12	14	13	3	6	2	1	23	36	26	34
Sept. 18 "	72	114	68	87	12	17	9	22	6	8	3	2	9	10	5	3	10	16	11	14	3	4	2	0	18	3	20	16
Oct. 16 "	93	127	82	104	19	23	9	29	17	12	15	2	18	16	16	6	19	21	14	17	5	2	3	0	53	27	36	33
Nov. 13 "	98	131	94	107	27	25	19	24	12	9	8	2	28	26	22	7	22	19	12	16	6	4	2	0	47	35	31	43
Dec. 11 "	104	129	128	117	26	23	17	28	11	7	7	2	15	11	14	3	27	22	14	19	3	5	4	0	54	31	34	49
Jan. 8, 1879	89	96	101	91	25	32	28	22	10	8	7	2	12	10	6	3	29	37	13	21	1	3	2	0	16	21	12	15
Feb. 5 "	92	87	83	94	27	38	22	34	8	9	7	2	9	11	5	3	31	25	8	17	4	3	2	0	46	27	33	33
March 5 "	97	69	84	88	24	39	26	38	9	6	7	2	8	10	5	3	29	43	10	14	1	2	2	0	35	29	30	28
April 2 "	84	22	68	82	26	16	22	34	8	3	6	2	10	7	5	3	22	6	17	16	4	0	3	1	35	8	23	29
Totals.	1202	1252	1142	1164	291	317	218	350	119	165	83	27	149	145	100	41	279	272	153	183	47	42	29	4	485	446	400	416

* The Sanitary Districts are (1) North-west, (2) North-east, (3) Central, (4) South.

+ The actual complaints of non-removal during the year were only (by letter) 18, viz., 2, 2, 2, & 2, in the four districts respect

Other Proceedings, e.g. Legal Proceedings.	Licensed Slaughter-houses.	Sanitary Notices Issued.
93	11	63
4	6	6
9	4	4
4	8	8

TABLE VII.

Showing the Death rate per 1,000 persons living; the annual rate of Mortality per 1,000 living from the "seven" principal Zymotic Diseases; and the proportion of Deaths from these Diseases to the total Deaths in Kensington and in all London in 1878, and in the ten years, 1868-77.

The Year.	Deaths per 1000 living.		Total Deaths from seven Zymotic diseases, Kensington.	Annual rate of Mortality per 1000 living from seven Zymotic Diseases.		Proportion of Deaths to 1000 Deaths from seven Zymotic diseases.		The Year.
	Kensington.	London.		Kensington.	London.	Kensington.	London.	
1868	21.0	23.6	457	4.2	4.7	2.8	2.00	1868
1869	20.2	24.6	369	3.3	5.5	1.64	2.27	1869
1870	21.2	24.1	545	4.6	5.1	2.22	2.13	1870
1871	19.1	24.7	542	4.4	6.0	2.33	2.42	1871
1872	17.0	21.4	390	3.0	3.8	1.81	1.79	1872
1873	18.3	22.5	290	2.1	3.3	1.19	1.49	1873
1874	19.5	22.5	388	2.8	3.3	1.44	1.47	1874
1875	19.4	23.7	372	2.5	3.9	1.33	1.64	1875
1876	19.5	22.3	498	3.3	3.6	1.72	1.62	1876
1877	17.3	21.9	339	2.2	3.5	1.29	1.60	1877
AVERAGE OF TEN YEARS.	19.2	23.1	419	3.2	4.2	1.70	1.84	AVERAGE OF TEN YEARS.
1878	20.3	23.5	573	3.7	4.1	1.83	1.75	1878

TABLE VIII.

Comparative Analysis of the Mortality in all London and in Kensington, in 52 weeks, ended 28th December, 1878.

LOCALITY.	Annual Death Rate per 1000 living from all causes.	Annual Death Rate per 1,000 living from principal Zymotic diseases.	Per centage of Deaths under 1 year to Births Registered.	PER CENTAGE OF DEATHS TO TOTAL DEATHS.					
				Under 1 year of age.	At 60 years of age and upwards.	From Zymotic diseases.	From Violence.	Registered upon infor- mation of the Coroner. (Inquests.)	Registered at large Public Institution.
London ...	23.5	4.1	16.4	28.7	20.3	17.5	3.9	6.7	18.4
Kensington ...	20.3	3.7	17.8	26.5	21.2	18.3	2.1	5.8	13.2

TABLE II.

Showing Birth and Death Rate : Deaths of Children, and Deaths in Public Institutions in 1878 and 10 previous years.

The Year.	Births per 1000 of the population.	Death Rate per 1000 living.	Deaths of Children under 1 year per cent. to Total Deaths.	Deaths of Children under 1 year per cent. to Registered Births.	Deaths of Children under 5 years per cent. to Total Deaths.	Deaths in Public Institutions
1878	30.0	20.3	26.5	17.8	46.3	414*
1877	30.8	17.3	25.3	13.9	40.8	354
1876	32.9	19.5	26.6	17.1	44.6	338
1875	31.2	19.4	25.0	15.6	40.3	338
1874	31.7	19.5	28.5	17.5	45.4	252
1873	31.4	18.3	27.0	15.9	40.0	272
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1871	31.3	19.4	25.0	15.0	41.6	252
1870	32.1	21.2	24.0	16.4	42.9	330
1869	32.5	20.3	+	+	+	313
1868	33.1	21.0	+	+	+	303
Average of 10 Years, 1868-77.	31.9	19.3	26.3	15.9	42.4	301

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TABLE X.
PARISH OF ST. MARY ABBOTTS, KENSINGTON.
Return respecting the Vaccination of Children whose Births were Registered during the year 1878.

DATE.	Registration Sub-Districts comprised in Vaccination Officer's District.	Number of Births returned in Birth List Sheets.	Number of these Births duly entered in Columns 10, 11, and 13 of the Vaccination Register (Birth List Sheets) viz:				Number of these Births which are not entered in the Vaccination Register, on account, as shown by Report Book, of			
			Column 10 Successfully Vaccinated.	Column 11.		Column 13 Dead Un-vaccinated.	Postponement by Medical Certificate.	Removal to Districts, the Vaccination Officer of which has been duly apprized.	Removal to places unknown, or which cannot be reached, and cases not having been found.	Cases still under proceedings by summons and otherwise.
				In susceptible of Successful Vaccination.	Had Small-pox.					
	1	2	3	4	5	6	8	9	10	
1st January to 31st Dec.	Kensington ... Brompton ...	3722 889	3069 763	15 3	1	372 73	40 10	16 7	194 26	16 6
	Totals	4611	3832	18	1	445	50	23	220	22

TABLE XI.

LICENSED SLAUGHTER HOUSES.

SOUTH OF UXBRIDGE ROAD.

LOCALITY.	LICENSEE.
6, Church Street, Kensington -	Mr. Stimpson
11, Peel Place, Silver Street -	" Andrews
The Mall, Silver Street -	" Wright
183, Brompton Road -	" French
60, Kensington High Street -	" English
15, High Street, Notting Hill -	" Short
133, Ditto ditto	" Candy
6, Addison Terrace, ditto -	" Beall
35, Earl's Court Road -	" Matson

NORTH OF UXBRIDGE ROAD.

13, Archer Mews - - -	Mr. Bawcombe
20, Bolton Mews - - -	" Smith
195, Clarendon Road - -	" Rush
10, Edenham Mews - - -	" Gibson
Tavistock Mews, Portobello Road	" Hughes
8, Vernon Mews, Portobello Road	" Young
196, Portobello Road - -	" Scoles
Ledbury Mews - - - -	" French
Lonsdale Mews - - - -	" Olney
50, Princes Road, Notting Hill	" Parratt
10, Princes Mews, Notting Hill	" Cole
10, Princes Yard ditto	" Coles
Clarendon Mews ditto	" Colley
41, Princes Place ditto	" Pickworth
23, Norfolk Terrace -	" Matthews
61, Silchester Road -	" Matthews
235, Walmer Road - -	" Van
Mary Place, Notting Dale -	" Nind
Royal Crescent Mews - -	" Macpherson
Ditto ditto - - -	" Down

TABLE XII.

LICENSED COW-SHEDS.

SOUTH OF UXBRIDGE ROAD.

LOCALITY.	LICENSEE.
7, The Mall, Notting Hill -	Mr. Edwards
St. Mark's Road, Fulham Road	„ Starr
Melbury Road - -	„ Tisdall
Newland Terrace - -	„ Tisdall
Warwick Road - -	„ Pool
Stratford Road - -	„ Clarke
Addison Cottage, Lorne Gardens	„ Lyons
Newcombe Street - -	„ Lunn

NORTH OF UXBRIDGE ROAD.

2, Portobello Terrace -	Messrs. Ross & McCulloch
191, Portobello Road - -	„ Hughes and Son
207, Portobello Road - -	Aylesbury Dairy Company
3, 4, 5, Angola Mews - -	Mr. Jennings
4, 5, 6, Wornington Mews -	„ Jones
Ledbury Mews - -	„ Liddiard
187, Walmer Road - -	„ Arnsby
235, Walmer Road - -	„ Van
47, Tobin Street, Notting Dale	„ Bedgood
12, Blechynden Mews - -	„ White
14, ditto - -	„ Copperwheat
15, ditto - -	„ Salisbury
3, 4, & 5, Archer Mews - -	„ Skingle
23, Bramley Road - -	„ Tame
27, Queen's Road - -	„ Williams
49, Tavistock Crescent -	„ Minter
Elm Cottage, St. Mark's Road	„ G. Attfield
Clarendon Road - -	„ Brumbridge

THE ANNUAL REPORT

ON

THE HEALTH,

SANITARY CONDITION,

&c., &c.,

OF THE

Parish of St. Mary Abbots,

KENSINGTON,

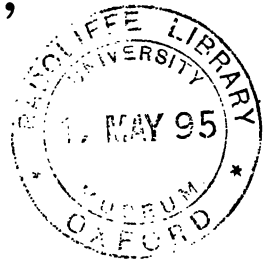
FOR THE YEAR

1879,

BY

T. ORME DUDFIELD, M.D.,

Medical Officer of Health.



HUTCHINGS AND CROWSLEY, PRINTERS, 123, FULHAM ROAD, S.W.

AND HENRY STREET, ST. JOHN'S WOOD, N.W.

1880.

CONTENTS.

	PAGE
PREFATORY REMARKS	5
DEATH-RATE, Parochial and Metropolitan	6
REGISTRATION DISTRICT, "Kensington"	6
" SUB-DISTRICTS—"Kensington Town" and "Brompton"...	7
WARDS, Parochial Division into	7
KENSINGTON, Evidences of the growth of, in Population and Wealth, 1801-80	7
ZYMOTIC DISEASES, Remarks on the Seven Principal	8
" Number of Deaths from the Seven Principal	10
SCARLET FEVER	10
" Outbreaks of	11
" Co-operation of School Authorities for preventing the Spread of	12
" Inquests on Fatal Cases of... ..	13
" Illustrations of unsuspected Modes of Spread of ...	14
DIPHTHERIA	15
MEASLES	16
WHOOPIING-COUGH	17
" FEVER," Typhus, Enteric, and Simple Continued	18
DIARRHŒA	18
SMALL-POX	19
" Table of cases of, during epidemic (1876-80) ..	20
FULHAM SMALL-POX HOSPITAL, The year's work at	21
" " The Indictment against	22
" " Description of District, Site, &c., of ...	23
(<i>Map of District : Plan of Hospital</i>).	
SMALL-POX, Is Fulham Hospital the cause of the spread of, in Ken- sington, Chelsea, and Fulham ?... ..	24
" Illustrations of modes of spread of	28
"HAMPSTEAD SMALL-POX HOSPITAL CASE"	33
HOSPITAL ACCOMMODATION FOR THE INFECTIOUS SICK (Non-paupers) ...	33
"DISQUALIFICATION BY MEDICAL RELIEF," A Bill to prevent ...	37
AMBULANCE SERVICE, Metropolitan... ..	40

	PAGE
INFECTIOUS DISEASE, Prevention of the spread of	40
" " Information of the existence of, how obtained ...	40
" " Legislation required to secure disclosure of cases of	42
<hr/>	
POPULATION OF KENSINGTON (estimated) in 1879, Number of Inhabited	
Houses, &c.	43
" OF SUB-DISTRICTS (estimated)	44
" Relative proportions of Males and Females in	44
" Ages of Males and Females in, at Census, 1871	44
MARRIAGES AND MARRIAGE-RATE	45
BIRTHS AND BIRTH-RATE	45
DEATHS AND DEATH-RATES, at different ages ; at periods of the year ;	
of the sexes ; and in the Sub-districts, &c.	46
DEATH, Special causes of	49
PUBLIC INSTITUTIONS, Deaths at	58
Parish Infirmary	58
Brompton Consumption Hospital	60
St. Joseph's House... ..	60
DEATHS "not certified"	60
INQUESTS held in 1879, Particulars with respect to the	60
" Why so many become necessary	62
VIOLENCE, Deaths from (<i>vide</i> page 56 also)	61
METEOROLOGY of the year	62
VACCINATION in Kensington	63
" Government Bill with respect to	64
GLANDERS, Summary of a Special Report on the prevalence of	
(Kensington and London)	66
SANITARY WORK of the year	69
LEGAL PROCEEDINGS : Various Offences, Penalties, &c.	70
" Conviction under Dairies, &c., "Order"	70
" " for Exposing an Infected Person	70
" " for Offences against Slaughter-	
Houses Bye-Laws	71
" " for Offences against Regulations	
for periodical Removal of	
Manure from Stables, &c.	71
SLAUGHTER-HOUSES, The Licensed	71
COWSHEDS	73
" Report of the Works, Sanitary, and General Purposes	
Committee on, Shewing results of action taken by the	
Vestry for the improvement of	74

CONTENTS.

iii

	PAGE
BAKEHOUSES, Legislation with respect to the	79
DUST AND ASHES, Removal of	79
MANURE (STABLE), Non-removal of	80
NECESSARY ACCOMMODATION, (Public Urinals, &c.)	81
BATHS AND WASH-HOUSES, Public	82
DISINFECTION OF HOUSES, BEDDING, CLOTHING, &c., after Infectious Diseases	83
WATER SUPPLY	84
„ Summary of Professor Frankland's Report on the	84
„ „ Colonel Bolton's „ „	89
GAS, Results of Tests for ascertaining the illuminating power of the	92
„ „ „ „ „ purity of	93
„ Supply of, for Street Lighting	93
CONCLUSION... ..	93

APPENDIX.

STATISTICAL AND OTHER TABLES.

TABLE 1.—Estimated Population in 1879 and ten previous years 1869–78: Number of Inhabited Houses: Gross numbers of Births, Deaths, and Marriages	97
„ 2.—Birth and Death Rates, Deaths of Children, and Deaths in Public Institutions, 1879 and 1869–78	98
„ 3.—Deaths Registered from all causes in 1879	99
„ 4.—Deaths from Seven Principal Zymotic Diseases: Pulmonary Diseases, Tubercular Diseases: Wasting Diseases of Infants, Convulsive Diseases of Infants; Gross numbers; Proportions of to 1000 deaths and to 1000 population	101
„ 5.—Deaths in 1879 and 1869–78 from the Seven Principal Zymotic Diseases	102
„ 6 & 6A.—Sanitary Work, Summaries of	103, 104
„ 7 & 8.—Comparative Analysis of Mortality in London and Kensington from certain classes of disease: Death rates and percentages of deaths, at ages: from Violence, in Public Institutions, &c., &c.	105, 106
„ 9.—Localities where fatal cases of the most important of the Zymotic Diseases occurred in 1879	107
„ 10.—Vaccination Officer's Annual Return	109
„ 11.—Slaughterhouses, Localities of, and Names of Licensees	110
„ 12.—Cowsheds „ „ „ „	111

TWENTY-FOURTH ANNUAL REPORT
OF THE
MEDICAL OFFICER OF HEALTH,
BEING FOR THE YEAR 1879.

To the Vestry of the Parish of St. Mary Abbots, Kensington.

GENTLEMEN,

I propose in the present report, as in previous reports, to place before you the vital statistics for the registration year. In 1879, this period, comprising 53 weeks, came to an end on the 3rd January, 1880. The ordinary sanitary statistics will be compiled for the parochial year, which terminated on the 25th March, 1880: other subjects calling for notice, will be dealt with as occasion may require.

The year 1879, judged by the rate of mortality, was somewhat above an average year.

The population, estimated to July, was 156,250, an increase of 2,650 over 1878. As the population increases every year, we might expect an increase, yearly, in the number of deaths. But in some years, the rate of mortality is above, as in others it is below, the decennial average, which is made the standard of comparison. Thus the year 1877, exceptional for a rate much below the average, was followed by a year in which the rate was above the average. In the year just ended, the rate again fell below the average, though not to the low point touched in 1877.

The deaths in 1879 were 2,991. This number includes 104 deaths, of non-parishioners that took place in the Brompton Consumption Hospital, and which are retained in our vital statistics by way of compensation for an unknown number of deaths of parishioners, which occurred in hospitals and elsewhere outside the parish. It also includes 26 deaths of parishioners, in the hospitals of the Metropolitan Asylum District Board. These 2,991 deaths are equal to a rate of 19.1 per 1000 persons living. The decennial rate is 19.2 per 1,000, consequently the rate last year was 0.1 per 1,000 below the average. But the year was an exceptional one, including as it did a period of 53 weeks. Calculated for an ordinary year of 52 weeks, the death rate would have been 18.7 per 1000 or 0.5 below the decennial average.

The subjoined table shows the relation of our local death rate, in seven years, to the Metropolitan rate, and to the rate in the several great divisions of the Metropolis, as mapped out by the Registrar-General in his annual summary :—

Death-rate.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	
Kensington...	19.1	20.3	17.3	19.5	19.4	19.5	18.3	per 1,000
London ...	23.3	23.5	21.9	22.3	23.7	22.5	22.5	,,
West Districts	22.4	21.6	19.1	21.0	22.1	20.9.	20.5	,,
North ,,	22.7	22.3	21.8	21.4	22.3	21.8	21.2	,,
Central ,,	25.2	24.9	24.1	24.0	26.0	25.6	25.0	,,
East ,,	25.8	24.9	24.4	24.0	25.5	25.4	25.2	,,
South ,,	24.2	24.2	21.3	22.1	25.0	21.5	22.0	,,

KENSINGTON REGISTRATION DISTRICT.—“Kensington” is the name of a registration district, which comprises Kensington parish, and the parishes of Paddington, Fulham, and Hammersmith. The subjoined table shows the relative areas of the component parishes, and other particulars relating to the census-year, 1871 :—

	Area in statute acres.	Inhabited houses 1871.	Population 1871.
Kensington ...	2,190	15,735	120,299
Paddington ...	1,251	11,847	96,813
Hammersmith	2,287	6,719	42,691
Fulham ...	1,716	3,469	23,350

THE PARISH OF KENSINGTON is, for some parochial purposes, divided into “wards.” The subjoined figures shew the acreage of the several

wards and some other particulars also relating to the census-year 1871 :—

Name of Ward.	Area in statute acres	Inhabited houses 1871.	Population 1871.	Rateable annual value of property 1871.
Holy Trinity, Brompton	489	3,224	22,128	£246,716
St. John, Notting Hill and St. James, Norland ...	905	7,730	62,475	£865,012
St. Mary Abbotts ...	846	4,781	35,696	£323,992
	2,190	15,735	120,299	£935,720

In respect of the number of inhabited houses, population, and rateable value, the parish has undergone great development since 1871. The inhabited houses are now more than twenty thousand in number, while the value of rateable property has increased so largely that a penny rate produces upwards of six thousand pounds. The number of houses newly brought into rating in 1879, exceeded 700; and building operations are still in progress at a rate which threatens in a few years to absorb all available land.

The subjoined table, shows the growth of population and rateable value of property since the beginning of the century :—

The Year.	Population.	Rateable value of Property.	The Year.
1801	8,556	£75,916	1823
1821	14,428	93,397	1833
1841	26,834	142,772	1843
1851	44,053	257,103	1853
1861	70,108	375,323	1860
1871	120,299	590,711	1865
1879 (July)	156,250	817,826	1876
		1,442,541 (April)	1880

REGISTRATION SUB-DISTRICTS.—For registration purposes, the parish is unequally divided into two sub-districts, viz., “Kensington Town,” (hereinafter for brevity designated “Town”), and “Brompton.” The area of the Town sub-district is 1497 acres, of Brompton 693 acres; total 2,190.* The estimated population of the Town sub-district, at the middle of the year was 116,050, and of Brompton 40,200; total

* The acreage of the parish is here given on the authority of the Registrar-General. In your Vestry's report, the acreage is stated to be 2,245.

156,250. The sub-districts present considerable differences which should always be borne in mind in any comparison of their vital statistics. Speaking generally, the population of Brompton contains a large proportion of the rich, or at least well-to-do classes for whose accommodation many houses of a palatial character have been erected within the last few years. The Town sub-district, on the other hand, comprises a much larger relative proportion of the poorer classes, especially in the north and north-western parts of the parish. These poorer classes have one advantage over the same classes in other parts of the Metropolis, in that they mostly live in well-constructed houses, obviously designed with a view to occupation by more wealthy people. It is scarcely too much to say, that there are miles of streets of such houses inhabited by a class of persons who, in the older parts of the Metropolis, would find shelter in dwellings that, by comparison, might be termed squalid. But rents are high, and high rents mean over-crowding, which is sure, in the long run, to raise the death-rate wherever it exists: and, indeed, there is reason to believe that it has already led to a greater variation in the rate of mortality in different sections of the parish than ought to prevail.

Having said so much by way of general introduction I now purpose, before entering into details on the subjects of population, births, causes of death, &c., to consider specially the mortality from the principal diseases of the zymotic class, and subjects which naturally arise out of this topic.

THE ZYMOTIC DISEASES.

The "class" of diseases called *Zymotic* comprises four "orders." The first order, "Miasmatic," includes, among others, the diseases which the Registrar-General calls "the seven principal diseases of the zymotic class," still classing under the generic term "fever" the three distinct fevers, "Typhus," "Enteric," and "Simple continued." These diseases have a high interest for sanitarians, being considered as of a more or less preventable character—it being the custom, moreover, to regard the proportionate mortality from them to deaths from all causes as an index of the sanitary condition of a district. But without underrating the importance of this relation, it needs be said that there are limitations to the applicability of the test which must be borne

in mind if we would draw sound conclusions. What I mean can be best explained by an illustration or two founded on our own local observations within the last two years. Thus *Measles* was very fatal in 1878: the deaths were far above the average. It was, so to speak, the zymotic disease of the year. In 1879, on the other hand, the deaths from measles were below the average; but the reduced mortality, which means the diminished prevalence of the disease, was almost the corollary of the excessive prevalence and fatality of the malady in the previous year. In saying this, I do not, of course, ignore the fact that one epidemic of a zymotic disease may be more severe than another; still less am I forgetful of the fact that the fatality of an epidemic is largely influenced by the means taken, or the neglect to take means, to limit the spread of infection. *Diarrhœa* may be cited as an illustration of quite another kind. The mortality from this disease among infants was excessive in 1877: the mortality in 1878 was far below the average; but the diminished mortality in the second year had no relation to the excessive mortality in the first: the conditions were altogether different. The summer season, 1878, was cold and wet: in a cold and wet summer the mortality from infantile diarrhœa is always low, just as it is always high when the summer is hot and dry. But the conditions that were so favourable to infantile life in respect of diarrhœa were very unfavourable to life, both in the young and in the aged, in respect of another class of diseases, viz., those of the respiratory organs, the mortality from which throughout the year was excessive, as it always is in cold and wet seasons.

These and like circumstances must be kept steadily in view if we would draw sound conclusions from a high or a low rate of prevalence of this or that disease, or class of diseases, especially in relation to the sanitary condition of a district.

Subject to corrections for climatic conditions, and for high rates in previous years, the concurrence of a low general death-rate with a low zymotic rate furnishes just grounds for satisfaction; and as the general and the zymotic rates were both below the average in 1879, to that satisfaction we are fairly entitled.

It need hardly be said that a persistently high rate of mortality from zymotic diseases is always a subject for serious consideration; but, as we shall see in due course, Kensington has hitherto been in the

happy position of having a death-rate from these diseases much below that of the Metropolis generally.

The subjoined table sets out necessary particulars of the mortality from the principal zymotic diseases in 1879, together with the decennial average, &c.:—

Diseases.	Sub-districts.		In Hos- pital.	Totals.	Totals in 1879.	Decennial (uncorrected) average.	Decennial (corrected) average.
	Town.	Brompton.					
Small-Pox	2	4	16	22	8	31·9	37·1
Measles	47	13	0	60	53	62·8	73·0
Scarlet Fever... ..	27	14	10*	51	70	69·4	80·7
Diphtheria	26	1	0	27	20	15·5	18·0
Whooping Cough	79	14	0	93	185	81·4	94·6
Typhus Fever	1	0	0	1	3	39·6	46·0
Enteric Fever... ..	12	2	0	14	24		
Simple Continued Fever	6	2	0	8	4		
Diarrhoea	62	9	0	71	181	127·1	147·8
	262	59	26	347	548†	427·7	497·2

It is thus seen that with the exception of whooping cough, which presented an average fatality; and diphtheria, which was slightly in excess, the mortality from each of these diseases was below the average; and that, as usual, the deaths in the Brompton sub-district were relatively fewer in proportion to population than in the Town sub-district. In the parish as a whole the deaths were 150 below the corrected decennial average, and were equal to 11·6 per cent. on the deaths from all causes, and to a rate of 2·2 per 1000 persons living; the decennial rate being 3·2 per 1000 in the parish and 4·2 per 1000 in the whole Metropolis.

I now proceed to make some observations on each of the above diseases, and first with respect to—

SCARLET FEVER.—The deaths from scarlet fever registered in the parish were 41 (27 in the Town sub-district and 14 in Brompton), viz., 8, 10, 6, and 17 in the four quarters respectively. There were in addition 10 deaths from “fever,” assumed to be scarlet fever, in the hospitals of the Metropolitan Asylum District, making a total of 51—the corrected decennial average being 80. The *cases* recorded were 277, viz., 56 in the

* Returned as “fever” simply, in the Hospital Reports.

† Besides 25 deaths in Hospitals, raising the total to 573.

district north of Uxbridge Road, and 221 south of that main line of thoroughfare, in what may be considered the southern half of the parish.

Fifteen of the cases in the north were removed to hospital, and 34 were concealed, *i.e.*, the occurrence of them was not made known until after recovery.

Eighty-eight cases in the south were removed, and 75 concealed. It is not a little remarkable that, like small-pox, scarlet fever should have been so much more prevalent in the south than in the north. Until within the last year or two it was all the other way. Zymotic diseases were far more common north of Uxbridge Road.

Scarlet fever was epidemic in the Metropolis; and several outbreaks in this parish, at the latter end of August, gave rise to anxiety. The first of any importance occurred in the vicinity of Kensington Square—at James Street, and South End. The disease had attained some hold on the locality before we heard of its existence, the cases being under the care of one medical man, who withheld information. The registration of a death directed attention to the locality, and, thenceforth, thanks to the active co-operation of the Poor-law officials, we were enabled to remove numerous cases with little loss of time, and the outbreak was soon at an end. At about the same time other groups of cases occurred at Blithfield Street, at Kensington Buildings, and at Bolton Mews, &c.; but, although few cases were removed (the same secreting of the sick children having at first been practised), diligent attention having been paid to secure isolation, the disease did not extend far. Several cases came under notice for which no medical aid had been sought, the cases being mild, and there was reason for believing that the spread of the disease had been brought about by the children being allowed to go into the streets, and even to school, while the skin was desquamating or “peeling.” In other localities the disease was soon eradicated by the removal of the sick, followed by disinfection. Equally satisfactory issue to our efforts to cope with infectious diseases might be reasonably expected could we but obtain early information of their existence. Of this, however, there is little hope so long as it is not compulsory on parents, householders, and medical men to give such information. About the desirability of a registration of sickness, in these diseases, there is but one opinion amongst sanitarians: and in principle it is universally allowed. Under “local acts” disclosure has been made compulsory in some important

centres of population, in which there is now almost no danger of infection being spread, as it is so frequently in London, by concealment of cases or by the exposure of diseased children in public places, schools, &c. How much need there is of similar legislation for London was well shown by an incident that occurred at Gloucester Grove East. In a dilapidated house in that street, since pulled down, there lived in a single room six children with their parents. Five of the children had scarlet fever, one after the other: the cases were mild, no medical man had been called in, and not only did some of the children go to a Board School, in Chelsea, while the disease was in the family, but two of them returned to school while "peeling."

Towards the close of the year scarlet fever again became more prevalent, and especially in the locality from which the National Schools draw their pupils—the majority of the sufferers being of school age. Many cases were removed to hospital, but we had reason to regret the concealment of others which came to light only upon recovery, when the services of the disinfecting officer were required, or after registration of a death. Groups of cases moreover occurred, due, as we believed, to association of children, in other schools, *e.g.*, St. Philip and St. Barnabas, St. George, St. Mary's, Boltons, &c. For the most part Board Schools were singularly free from the disease, the fact being that the outbreaks were practically confined to the central and southern parts of the parish where there were, or till lately had been, no Board Schools. The Sanitary Inspectors did good service in checking the spread of the malady by getting the sick removed to hospitals; by preventing children going to school from infected houses; and by keeping the teachers informed of the localities where disease existed. Many of the teachers exhibited a hearty desire to co-operate with us, and I, with your Vestry's sanction, prepared a form for their use, to enable them to report, without delay, known cases of infectious illness as well as the names of children absent from school under suspicious circumstances.

The form was supplied to all Masters and Mistresses of Public Elementary Schools, and was introduced to their notice in the following terms:—

"You are probably aware that Scarlet Fever is now epidemic in the Metropolis, and of the danger to be appre-

hended of the spread of the disease through the agency of Public Elementary Schools.

"It is, I believe, a rule of the School Board for London that children are not to be allowed to attend Board Schools from any house where Scarlet Fever exists, even though there be no case of the disease in the family of which the children are members.

"The Board, moreover, have, at my suggestion, instructed the 'Visitors' to report to the several Medical Officers of Health any cases of infectious disease in children that may come to their knowledge in the discharge of their official duties. The Visitors acting in this Parish have been provided with a form for this purpose.

"Having regard to the importance of early discovery of cases of Scarlet Fever, my Vestry have now authorized me to prepare a similar form for the use of Masters and Mistresses of all Public Elementary Schools.

"I enclose copies of this form, and I shall feel particularly obliged if you will kindly adopt it, and favor me thereon with immediate information of any cases of Scarlet Fever, &c., that may come to your knowledge.

"While inviting your attention to the note at the foot of the form, I beg to request that you will report the absence of children from school, if due to illness, *only* when there is some reasonable ground for suspicion that the illness is of an infectious character, as with the limited staff at my disposal, it would be impossible to enquire into other cases.

"In conclusion, I may remind you that the infective period of Scarlet Fever does not terminate until the "*peeling*" of the skin is done: and that it is not safe to allow children to return to school until their infected clothing, as well as the infected rooms and their contents, have been thoroughly disinfected."

Inquests were held in several cases of children who had died without having received any medical attendance. It may charitably be supposed that the parents failed to recognize the seriousness of the illness,

although it is probable that the omission to procure medical assistance had its origin in a desire to avoid the removal of the children. Be this as it may, the painful exposure of parental neglect thus brought about did good ; and if inquests were more frequently held, *e.g.* in cases where medical advice is not sought until the patient is moribund—cases, that is, in which the doctor cannot honestly certify that he has “*attended*” the patient—much benefit would arise : and, although the Coroner’s Court is theoretically one simply of inquisition, *viz.*, to ascertain the cause of death, it might thus render good service in the cause of “preventive medicine.”

As an illustration of culpable carelessness, and to show in what unsuspected ways disease gets spread, it may be mentioned that a monthly-nurse had voluntarily undertaken to assist in nursing some sick children, and this at a time when she was hourly expecting to be called to a lying-in chamber and was paying daily visits to the patient. Shortly after the lady’s confinement scarlet fever broke out in her family, the infection, beyond reasonable doubt, having been introduced by the nurse. Happily the lady herself did not suffer, otherwise the consequences might have been fatal. The nurse was dismissed, and only escaped prosecution by decamping in the night from her usual place of abode.

The importance of *early* recourse to medical aid in sickness was well illustrated by several cases that came under my notice. A death of a child was certified to have been caused by “*suppurative inflammation of cervical glands* ;” the medical man having been called in to see the child in the last stage of an illness. Shortly afterwards four children belonging to another family residing in the same house, were removed to hospital, where two of them died of *scarlet fever*. Had the nature of the illness in the first case, which indubitably was scarlet fever, been recognized, as it probably would have been had medical aid been sought at an earlier period, the subsequent cases might never have occurred.

In another instance a child fell ill and died of an eruptive fever, but the medical man was not called in till the eruption had faded. Believing the case to be one of measles he took no precautions against the spread of disease, and he was considerably surprised on being informed some time afterwards that cases of scarlet fever had occurred in another family living in the same house.

In a third instance, two children in one family had scarlet fever, but the mother was clearly ignorant of the nature of their illness, until her attention was called some weeks later to the peeling of the skin of the feet. A medical man had seen one of the children on two occasions, and there being apparently no eruption then existent, the nature of the case was overlooked, and would never perhaps have been suspected but for the fact that a man living in the same house, and who was observed to be ill, was found to have the skin of his hands peeling while following his daily occupation of a porter, handling and delivering small parcels of clothing. This man had slept with one of the sick children, and he was to have been married on the day following that on which I sent him to the hospital.

I have narrated these histories believing them to be typical of unsuspected ways in which infectious disease gets spread, and that if we could trace all outbreaks to their origin, such a case would be made out as would fairly startle the public mind, and help to get rid of the too common notion that infectious diseases being "in the air," it is useless to take precautions against the spread of them:—the fact being that the "area of infection" is very limited, the victims having been brought within that area sometimes through sheer wilfulness, sometimes through indifference, and sometimes through ignorance. Now and then the conveyance of infection is effected by the "sick" person himself, who being allowed to mix with healthy, but susceptible, individuals, mostly children, becomes a migratory centre from which disease spreads; and there can be little doubt that in the circumstances of our poor, living as they do in crowded and unventilated rooms, clothing, *e.g.* of parents and unaffected children, exposed by day and night to infection, becomes a means of spreading disease in schools, workshops, &c.

DIPHTHERIA.—The deaths registered from diphtheria were 26 (males 12 and females 14), and all but one occurred in the Town sub-district. This is the only zymotic disease of which the fatality was in excess of the corrected decennial average: the deaths in the previous year also (20) were above the average. The particulars of investigated cases almost compel doubts, occasionally, whether some of the deaths attributed to diphtheria may not really have been due to simple cynanche, &c.? It has seemed to me that since the end of 1878

certain deaths, which formerly would have been ascribed to other causes, have been put to the credit of diphtheria, which, at the date referred to, acquired a painful prominence arising out of the fatal issue to the Princess Alice's illness. One thing that has struck me very forcibly is the sporadic character of the disease, and the rarity of serious outbreaks, or groups of cases in localities, or even in houses where it makes its appearance; and this, notwithstanding the contagious character justly ascribed to the malady, and the obvious neglect of measures for preventing the spread of contagion:—many of the fatal cases, moreover, having occurred in circumstances which rendered any such measures well nigh impracticable, owing to the limited accommodation at the disposal of the people. Be this as it may, my experience in respect of diphtheria is very different to that of practitioners who have reported veritable and diffused outbreaks in country places. Of the 26 deaths, 15 were of children under five, and 10 of children between 5 and 15. One death, of a "contractor," occurred at 55 years of age. Twenty-two of the deceased were children of artizans, labourers, &c.; and three children of gentlemen. The quarterly numbers of deaths were 6, 10, 6, and 4 respectively. There was a curious parallelism between diphtheria and croup in respect of the fatal cases. Twenty-five of the deaths from diphtheria, and all the 25 deaths from croup, occurred in the Town sub-district; the quarterly numbers of deaths being identical in the first, second, and fourth quarters, and there being a difference of one only in the third quarter.

MEASLES.—The deaths caused by measles were 60 (47 in the Town sub-district and 13 in Brompton), being 13 below the corrected decennial average; and all but three were of children below five years of age—16 of them under one—the deaths in the four quarters being 5, 30, 18, and 7 respectively.

WHOOPING COUGH.—Ninety-three deaths, one below the corrected decennial average, were caused by whooping cough, 79 of them in the Town sub-district, and 14 in Brompton. Eighty-five were of children under five; 29 of them in the first year. Of the remainder, seven were of persons between 5 and 15, and one of an adult. The quarterly numbers of deaths were 43, 20, 8, and 22 respectively.

FEVER.—The deaths from the three diseases grouped under the head of “fever” were 23—eight below the number in 1878, and exactly half the corrected decennial average.

Typhus.—One death was attributed to this disease. It was of a young lady aged 14, who, within a few days of her death, had been in daily attendance at a well-known public school at Chelsea, walking there and back from Notting Hill, and working assiduously. All the facts that came out on the investigation of the case, pointed to the probability that the fatal disease was *meningitis*. A death of a parishioner from typhus took place at the London Fever Hospital on the day following the patient's removal from Silchester Road, Notting Hill. The deceased, a fireman in the service of the Metropolitan Railway Company, had been ill two or three weeks. The case became known to me through the Registrar-General's weekly return. On making arrangements for disinfecting the sick room, &c., it appeared that the clothing of the deceased had been sent to an address in Bristol, which was forthwith communicated to the Medical Officer of Health for that city.

Enteric Fever.—The deaths from enteric fever, 14 in number (including two in Brompton), were less than half the corrected decennial average. In some instances the illness appeared to have been caused by sanitary defects in the houses of the deceased, giving rise to pollution of air or water; while in four cases it was proved that the disease had been “imported.” The quarterly numbers of deaths were 0, 3, 7, and 4 respectively. Seven of the deaths occurred between 23-47 years, two under 5, and five between 5-12.

The most remarkable outbreak of enteric fever, during 1879, occurred at a house in Onslow Gardens; six persons out of a household of ten having been affected, viz., three young ladies, two servants, and a charwoman. On enquiry it was stated at first, very positively, that the cases had occurred simultaneously on the 7th October, the charwoman having been employed at the house on Thursday, 25th September, and Thursday, 2nd October. No sanitary defect was found in the house or locality, to account for the outbreak. Milk of course came under suspicion, but the freedom from illness of other families

served out of the same churns, emphatically negated the suspicion. I was at a loss, therefore, to account for the outbreak until it occurred to me to enquire whether the charwoman, instead of being, as supposed, one of the victims of the outbreak, in the course of her weekly attendance at the house, might not really have introduced the infection? The result of this enquiry was eminently satisfactory in one sense, for it turned out that on the 25th September, the first day of her being employed at the house, she was suffering violently from *Diarrhœa* (a symptom of enteric fever), and again on the 2nd October, her second and last attendance. It came out in the course of the further enquiry suggested by the discovery of her condition, that so far from the six cases having occurred simultaneously, there was a natural sequence. The charwoman infected the servants' w.c. : the housemaid succumbed first to the infection, viz., on the 6th October : she used the servants' w.c. and the w.c. in the upper part of the house : the three young ladies were attacked on the 7th and the cook on the 9th October. The ladies and the servants recovered, but the charwoman, who resided in Chelsea, succumbed to the malady.

It may be mentioned that doubts occasionally arise whether deaths classified to enteric fever were really due to this disease? The term "typhoid" is still used somewhat loosely in medicine to express a group of symptoms common to many diseases, especially towards their fatal termination. The term "gastric fever," which by the Registrar-General is always read "enteric fever," is employed in like manner; and practitioners who have certified deaths from this cause, have now and then expressed surprise on finding them classified to typhoid fever.

Simple Continued Fever was the cause of eight deaths, two of them in the Brompton sub-district.

DIARRHŒA.—The corrected decennial average deaths from diarrhœa is 148, and the deaths in 1878 were so many as 181. Last year, however, there were only 72 deaths, of which 58 were of children under five years of age, including 45 under one year. This great falling off in diarrhœal mortality was common to the whole of London, and was due to the cold, wet weather which prevailed throughout the "summer," when infantile diarrhœa is usually so great a scourge. The

quarterly numbers were 10, 8, 37, and 17 respectively, and the proportion of deaths under five years was smaller than usual.

SIMPLE CHOLERA.—Three deaths were registered from this cause, all in the Town sub-district.

SMALL-POX.

SMALL-POX, which had been prevalent during the first half of 1878—there were 169 cases *reported* to the end of June—was in almost complete abeyance during the latter part of the year, only 10 cases having been recorded in the six months. At the end of December, however, the disease re-appeared in the parish, and during the year 1879, I had to report the occurrence of cases in nine of my monthly reports, which cover, severally, a period of four weeks.

Of the 139 cases recorded, 24 occurred in the district north of Uxbridge Road, and 115 in the district south of that thoroughfare; 112 of the sufferers were over, and 27 under, 15 years of age*; 110 were removed to hospitals; while 29 were treated at home, this latter number of course being irrespective of concealed cases. In several instances the occurrence of a death led to the disclosure of the disease. Between September, 1879, and January, 1880, no case of small-pox was reported; but a new outbreak commenced at the latter date, the progress of which to date is sufficiently set out in the annexed table.

The fluctuations of the epidemic and the relative prevalence of the disease in the parts of the parish north and south of Uxbridge Road, respectively,—between November, 1876, and the end of June, 1880,

* In previous reports I have adverted to the difference in the relative proportions of adults and children attacked in the north and south sections of the parish respectively. The same difference was apparent last year. Thus of 98 cases in the south, 18 (= 1 in $5\frac{1}{2}$) were under 15 years of age, while in the north 9 out of 17 (say 1 in 2) were under 15. In the first half of 1880, 4 out of 5 in the north were children, and only 5 out of 26 (= 1 in 5) in the south. As children are more numerous than adults, and as they are usually at home, it might have been expected that they would furnish a larger proportion of cases upon the hospital theory of infection referred to below. It may be added that male adults are admitted into hospital in larger numbers than females and yet females, being more at home than males, should suffer most if the poison of the disease were spread over the district from the hospital as alleged.

are shown in the subjoined table compiled from my Monthly Reports:—

Date of the Monthly Report.	No. of Cases Reported.	No. of Cases under 15 years of age	Ditto over 15.	No. of Cases.		Sent to Hospital	Treated at Home.
				North of Uxbridge	South of Road.		
1876. No. 10. Nov. 15	13	5	8	12	1	4	9
14. Dec. 13	36	14	22	22	14	28	8
1877. 15. Jan. 10	40	20	20	24	16	30	10
1. Feb. 7	43	14	29	34	9	24	19
2. Mar. 7	26	12	14	24	2	15	11
3. April 4	24	7	17	22	2	18	6
4. May 2	39	17	22	32	7	23	16
5. „ 30	43	21	22	38	5	29	14
6. June 27	50	20	30	28	22	40	10
7. July 25	43	21	22	25	18	38	5
8. Aug. 22	39	10	29	17	22	32	7
9. Sept. 19	12	3	9	7	5	9	3
10. Oct. 17	19	16	3	7	12	12	7
11. Nov. 14	11	4	7	4	7	8	3
12. Dec. 12	5	1	4	1	4	3	2
13. (to) 31	5	0	5	1	4	4	1
1878. 1. Feb. 6	8	3	5	6	2	7	1
3. Mar. 5	10	1	9	5	5	10	—
4. April 3	16	2	14	6	10	15	1
5. May 1	57	8	49	7	50	47	10
6. „ 29	55	23	32	21	34	35	20
8. June 26	23	8	15	7	16	18	5
9. July 24	6	2	4	—	6	4	2
10. Aug. 21	1	—	1	—	1	1	—
11. Sept. 18	—	—	—	—	—	—	—
12. Oct. 16	—	—	—	—	—	—	—
13. Nov. 13	1	—	1	1	—	1	—
14. Dec. 11	—	—	—	—	—	—	—
15. Dec. 28	2	—	2	—	2	1	1
1879. 1. Feb. 5	7	1	6	—	7	2	5
2. Mar. 5	11	2	9	2	9	9	2
3. April 2	28	3	25	13	15	18	10
4. „ 30	27	4	23	—	27	25	2
5. May 28	10	1	9	2	8	7	3
6. June 25	28	8	20	2	26	24	4
7. July 23	10	2	8	—	10	9	1
8. Aug. 20	8	—	8	1	7	8	—
9. Sept. 17	10	6	4	4	6	8	2
1880. 1. Feb. 4	9	4	5	1	8	6	3
2. Mch. 3	17	2	15	—	17	13	4
3. „ 30	5	—	5	—	5	5	—
5. May 26	4	3	1	3	1	3	1
6. June 23	2	2	—	1	1	2	—
Totals	803	270	533	380	423	595	208

FULHAM HOSPITAL.

I submit, as usual, some observations on the work of Fulham Hospital during the year, based on the annual report of Dr. Makuna, the (late) Medical Superintendent.

On the 1st January there were 17 cases in the hospital: during the year there were 702 admissions, 585 discharges, and 115 deaths, leaving 20 cases under treatment on the 31st December. The adult males admitted were 358, the females 274; while 102 of the cases were of children under 10 years of age. Of the admissions, 27 were convalescents from other hospitals, 637 were "acute" cases (as against 729 in 1878), and 38 were other than small-pox cases. Of the 115 deaths, 111 were from small-pox, and four from other causes. Several cases were admitted at the gates, the sufferers having been directed to walk down to the hospital to know whether they were afflicted with the disease or not. In numerous instances of *varicella* (chicken-pox) the patients had in like manner been sent to the hospital for diagnosis. The practice of sending doubtful cases to the hospital in this way is reprehensible, for if the sufferers have small-pox, they may infect other people by the way; and in the other case they are liable to become infected themselves in the receiving ward.

The principal contributors to the hospital were Fulham, sending in 144 cases, Kensington 113, Chelsea 105, St. Saviour's 71, and St. George's 53. The average stay in hospital of patients discharged recovered was 35·54 days, viz., in round numbers 26, 32, and 42 days respectively, in the three classes of patients designated "well vaccinated," "indifferently vaccinated" and "unvaccinated."

The mortality was at the rate of 17·48 per cent., as against 16·53 per cent. in 1878, the increase being explained by the fact that a larger proportion of the cases was of unvaccinated persons. The proportion of unvaccinated to vaccinated cases, which in 1878 was 1:3·6, was in 1879 1:2·94. The number of unvaccinated children under five (34) was the same as in the previous year, and the high mortality in them told heavily in a smaller aggregate number of cases. Of 155 unvaccinated cases 75 died, or 48·38 per cent., and of 477 vaccinated cases 31 died, or 6·5 per cent. The percentage of deaths among males was 18·14, and among females 16·7. Among unvaccinated children, under five years of age, the percentage of deaths was

58·8. There were no deaths among the vaccinated under the age of 15 years, but of 83 unvaccinated children, under 10 years old, 31 (49·1 per cent.) died.

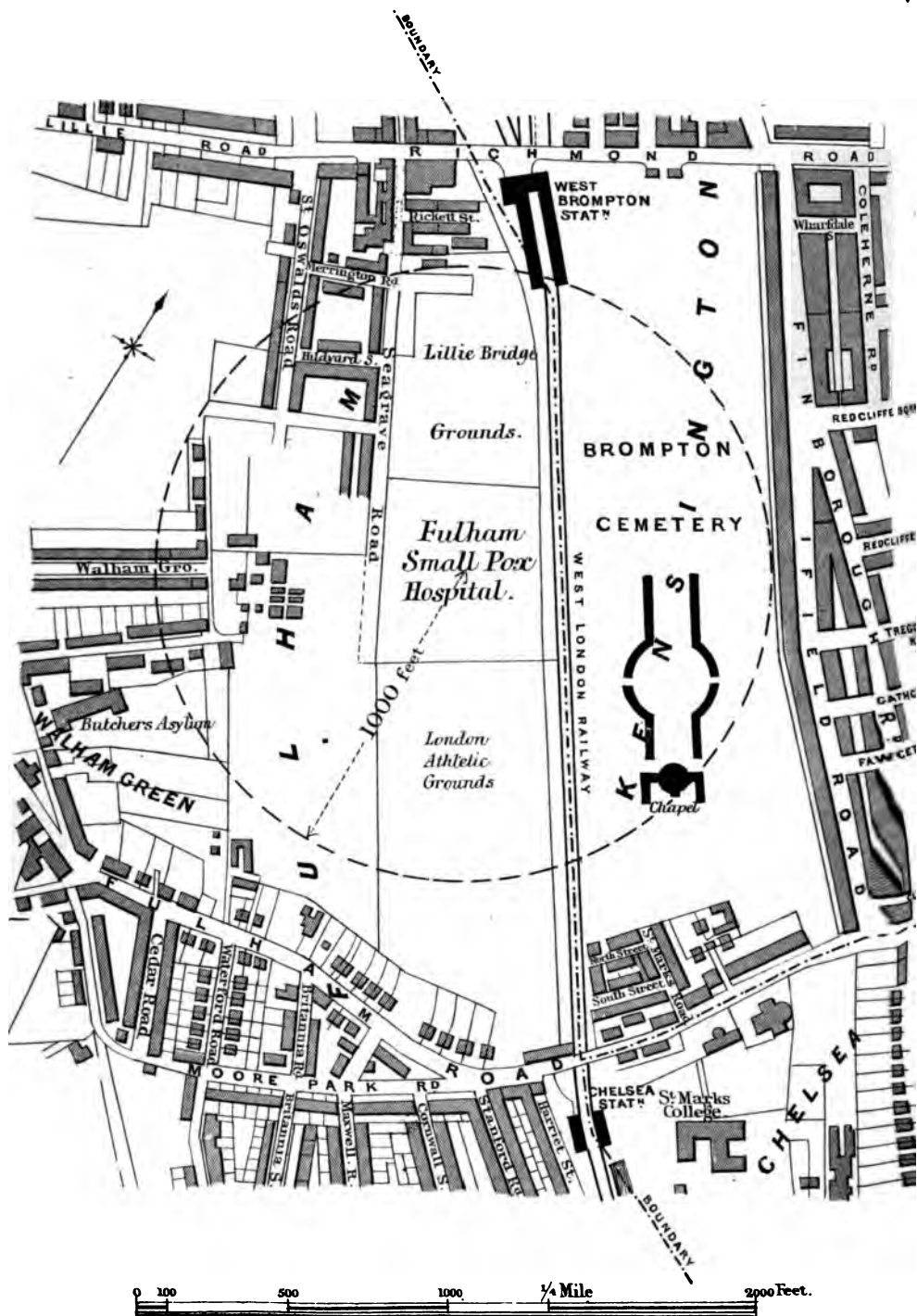
The foregoing statistics will probably suffice to satisfy most persons of the value of vaccination as a protective measure. Were there any hope of convincing those who dispute its efficacy, I might enlarge on the subject, and show that the degree of protection is proportional to the quantity and quality of vaccination—the mortality (6·5 per cent. on all vaccinated cases) having ranged from less than 2 per cent. in persons who had been “well” vaccinated (described as “vaccinized”), to 8 per cent. in the “imperfectly” vaccinated, and to 14·7 per cent. in those who presented “traces” only, of marks; the percentage mortality among the unvaccinated being, as already stated, 48 per cent.

THE INDICTMENT AGAINST FULHAM HOSPITAL.

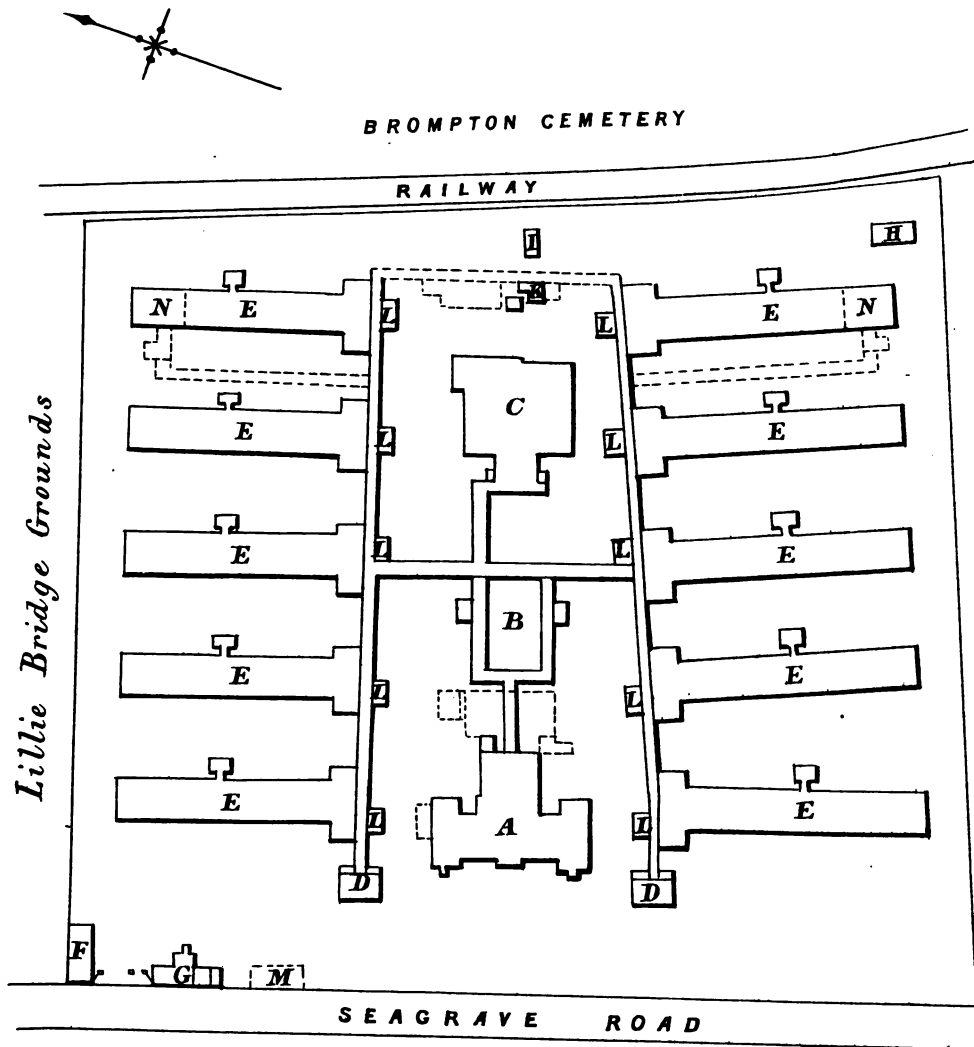
The charge against the hospital of being the cause of the prevalence of small-pox in the surrounding parishes—Fulham, Kensington, Chelsea—has been maintained with undiminished persistency to the present time. The epidemic, it is said, fluctuates directly with the number of patients in the hospital—nothing avails to stamp it out so long as these are numerous: the air is saturated at such times with small-pox particles—the concentrated poison being carried across hundreds of yards of well-wooded space to fall like a malignant dew on the people in the vicinity.

Such, in substance, is the indictment brought against the hospital by persons who do not appear to have enquired whether the spread of the disease might not be otherwise accounted for? and who have not, by the process of eliminating ordinary modes of spread, in particular instances, enhanced the probability of their own theory. It is difficult to deal with such bold assertions: practically impossible as it is to disprove them; as impossible, in fact, as it is to prove them.

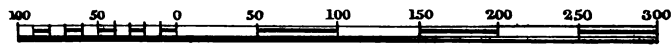
For my own part I have never ventured to deny that an infectious-disease hospital is liable to become a danger to the people in its vicinity if not properly managed; but I have, in former reports, stated the grounds for my belief that proper precautions have been taken in respect of this institution to guard against danger, viz., by well-considered rules, faithfully carried out, and designed to isolate the hospital and its



BLOCK PLAN. FULHAM HOSPITAL.



Scale of Feet.



References.

A	Administrative	G	Gate Porters Lodge
B	Kitchen	H	Mortuary
C	Laundry	I	Patients Clothes Store
D	Receiving Wards	K	Disinfecting Room
E	Wards	L	Coals & Dust
F	Waiting Room	M	Stores Reception Room

N. Separation Ward.

inhabitants. The drains are regularly disinfected; all broken food and the sweepings of the wards are destroyed; disinfectants are freely used. The laundry work is done on the premises by resident servants: no one is allowed to leave the grounds without bathing and change of clothing; and although people are allowed, under carefully devised restrictions and precautions, to visit relatives dangerously ill, there is scarcely an instance known in which visitors have contracted the disease.*

The hospital stands in its own grounds of some six acres. It consists of 10 pavilions, with accommodation for 250 patients. Each bed has an allowance of 144 square feet of floor space, and each patient an air space of 2,100 cubic feet. Every ward is well warmed and ventilated, being lighted with numerous opposite windows. The officers are housed in a separate "administrative" block of permanent construction. The site is bounded north and south, respectively, by the Lillie Bridge and the Stamford Bridge Running Grounds; on the west by a large open space in Fulham, and on the east by the West London Railway and the Brompton Cemetery. The grounds, attractively laid out, are enclosed by efficient fences, and many trees have been planted within them. The nearest inhabited houses in Fulham are about 150 yards from the hospital; and the nearest houses in Kensington nearly double this distance.

The accompanying tracing, from Bacon's map, of the surrounding district, for which I am indebted to your Vestry's Surveyor, will give a better idea of the locality than any verbal description. It shows clearly the distance-relations of the hospital-site to the parishes of Kensington and Chelsea, and its position in Fulham parish; and that in all directions the buildings are isolated by large open spaces. The radius of the circle traced round the hospital is one thousand feet, and the distance from the eastern border of the site to Ifield Road 750 feet, or 7 times the distance deemed requisite for security. The intervening space is occupied by the West London Railway and Brompton Cemetery, which abounds in evergreen and other trees, the effect of which in arresting the passage of *malaria* is well known. The hospital, consisting

* "During the year there were 139 patients on the visiting list as 'dangerously ill'; 100 were visited by 125 visitors, paying 298 visits, only one of the visitors was subsequently admitted to the hospital within 14 days time of her husband's admission, and 10 days of her first visit."—*Report of the Medical Superintendent.*

of single wards, lies lower than the cemetery, and its roof is at about the level of the top of the cemetery walls. It is about opposite the centre of Ifield Road, the site being 750 feet in length, and the road having a length of 2,500 feet. Small-pox cases have occurred in this road equally on either side, and from end to end of it.

For the block plan of the hospital itself, reduced from the plan published with Dr. Makuna's last annual report, I am indebted to the kindness of Mr. H. E. Pollard, a member of your Vestry.

Now if a hospital isolated, constructed, and well ordered as this one admittedly is, could be proved to be dangerous to the people in its vicinity, an important question would practically be settled: there ought to be no hospitals for infectious diseases within the metropolis!

It is remarkable that persons who take this view, who regard the hospital as a common danger, and would close it forthwith, yet do not appear to regard as anything very serious the risk of keeping small-pox patients at home, in rooms that are small and unventilated, in houses that are tenanted by numerous families, and under conditions which would neutralise the best attempts at isolation, but where, practically, no such attempts are seriously made. In such circumstances patients are kept at home, and it has been my lot to see disease spread from family to family without direct contact between the sick and well. How, indeed, could it be otherwise? If the "infectious particles" can be carried by the air hundreds of yards from the hospital as alleged, *a fortiori*: they can be carried from one room to another by the air in the common staircase; and from house to house, from street to street! And if nurses, visitors, &c., may convey the disease from the hospital as stated, notwithstanding all the precautions taken to avoid the spread of infection; how much greater must be the danger arising from those who, after contact with the sick, without bathing and without change of clothing or other precautions, mix with their fellows in the outside world?

Many a case is kept at home simply because the attack is slight; and medical advice is not sought lest the removal of the patient should be enforced: scarcely any precautions are deemed necessary. The man who does not feel ill will not readily submit to enforced idleness, which means starvation for his family; while the convalescent child, in such circumstances, thought to need fresh air, is turned out to get it in the streets. Rarely does it happen that home-patients are isolated for

the requisite length of time, varying, we are told, from three weeks to as many months, until the scabs and scales have fallen off; and as a rule they have not facilities for bathing and skin disinfection. Necessary precautions—disinfection of the sick chamber, of the excreta, and of drains, &c., destruction of dust and debris of food; are for the most part not taken: they are either impracticable, not understood, or disregarded, and especially in the most perilous of all cases—the mild and the concealed. The alleged dangers of the public hospital are multiplied indefinitely in these private hospitals; and when we take into consideration the number of them (and probably concealed cases are as numerous as those which are disclosed) the marvel is not that the disease in epidemic times is so rife, but that so many people escape!

Small-pox is intensely contagious. A competent authority has lately said of it that, “the isolation and the general precautions which are sufficient in the other infectious diseases are insufficient in this one. . . . It attacks at once all susceptible persons immediately on their exposure to it. . . . Where it strikes it strikes at once . . . In an ordinary pavilion-hospital fevers may be treated in pavilions situated side by side, with a laundry in common. The blankets, bedding, and linen of these different fevers may be used with impunity for either fever indifferently after being washed; but the same cannot be said of clothing which has been used for small-pox . . . because small-pox, when treated in the same conditions as the other contagious diseases, spreads, whilst these do not. If, for instance, one case of small-pox arise in an hospital, or by mistake be admitted into one, more are sure to follow, and that not necessarily in the ward in which the first case appeared, or into which it had been admitted, but in the different and widely separated parts of a large building. Thus if the first case appear in the extreme east the second may appear in the extreme west, or possibly somewhere between these two points. Or if the first case appear at the top of the house the second may appear at the bottom, and so on . . . and this occurs when patients have not left their wards or even their beds. . . . The precautions, then, which are sufficient for the other contagious diseases are not sufficient for this one.”*

* “*On some public health points in the management of a small-pox hospital.*”—Paper by Dr. Collie, Medical Officer to the Homerton Fever Hospital. Read before the Society of Medical Officers of Health, May 21st, 1880.

Now, if this be so, can any one doubt that each case improperly retained at home is a danger to the public health? The danger would be well-nigh illimitable but for the protection afforded by vaccination and re-vaccination!

In many and varied ways we have seen, and shall see, the disease may be spread, but the opponents of the hospital speak and write as if *it* was almost the only—and certainly they regard it as the chief—source of infection. Their contention, moreover, is practically that the “concentrated poison,” the “palpable small-pox particles,” are diffused by the wind. Now, simply noticing, in passing, the obvious consideration that the wind often blows in one direction for many days, and that long continuance of the wind in one quarter has been co-incident with a subsequent outbreak of small-pox around the hospital at all quarters of the compass—for the intensity of the epidemic has risen and fallen in contiguous parishes and in the Metropolis simultaneously—I pass on to deal with the assertion that small-pox particles may be carried, as they would in this case have to be carried, hundreds of yards, and still retain their infective power. Such an assertion is contrary to medical experience, and it is not shared by any important section of the profession. The allegation, however, can be most effectually met by a counter statement of a fact which I quote from Dr. Collie’s paper before alluded to. He says:—

“The Infirmary of the City of London Union at Homerton stands at a distance of ninety-nine feet from the west-most block of the Homerton Fever Hospital, and in this block upon two occasions, for a period of four months each, there were forty small-pox beds constantly occupied. The windows directly face each other, and are almost always open. Here then apparently are the conditions for the passage of small-pox poison if it be true that it may be carried long distances through the air. Amongst a number of persons, consisting of children, new-born infants, and young women in confinement, there were likely to have been some susceptible subjects. The poison was there, and not only in the block referred to, but in certain winds it would be blown from three similar blocks which are parallel to it. Thus air liable to contamination by about 250 small-pox patients might on two different occasions, for a period of about four months, have passed into rooms inhabited by persons some of whom were probably susceptible to its influence, and yet on neither of these occasions did a single case of

small-pox arise in the Union Infirmary It is on this account that I have come to the conclusion," says Dr. Collie, "that 100 feet would be a safe distance, for the separation space between a hospital and the nearest inhabited houses."

In the face of facts like these how can it be contended that streets at 1000 feet distance have been again and again directly infected by "poison" emanating from Fulham hospital?

The persistency with which the attack against the hospital has been carried on could not fail to have some effect on those who lacked time or opportunity for enquiry; and there was a time, I think, when medical men practising in West Brompton, in Fulham, and in Chelsea were disposed to regard the hospital as a danger. Indeed a meeting of medical men was held, to which I had the honour of being invited, to consider what steps should be taken to close the hospital? After a prolonged discussion, however, and after statements had been made by the Medical Officer of Health for Chelsea * and myself, the meeting separated without coming to any resolution, and I have not heard anything since to lead me to believe that any considerable section of the local representatives of the profession entertain views adverse to the hospital.

It is a bare truism to say that a Medical Officer of Health could have but one desire in reference to a hospital if it appeared likely to spread infection in his district, viz., to get rid of it as quickly as possible! That would be my feeling certainly, and it is not without much time, thought, and labour devoted to investigation of the question, that I have come to the conclusion that the charge against this hospital is not borne out by anything that its opponents have published, or by anything that I myself have been able to find out: but that, on the contrary, the hospital is a distinct boon to the locality by the facilities it affords for the isolation of the sick. For months together, moreover, I was in active correspondence with the (late) Medical Superintendent of the hospital, Dr. Makuna, who took great pains in tracing the histories of the people who came under his care, and was again and again successful in tracking the spread of infection in unsuspected ways, and in cases which, in the absence of

* The Medical Officer of Health for Fulham was not present; but his views on the subject are known to coincide with those of his colleagues.

such information and on the theory of "one great infecting centre," might well have seemed to the opponents of the hospital to support their views.

I had Dr. Makuna's permission last year, to quote from his letters, 26 in number, but did not think it would be fair to anticipate the interest of a paper he then purposed to write. Now, however, that he has retired from his post, owing to ill health, without having carried out his design, I feel that I shall be acting in harmony with his views, in giving publicity to some of the interesting facts and cases he brought under my notice within the short period of less than three months—April to July, 1879.

One of the most remarkable facts in connexion with the epidemic in the south and west parts of Kensington, is the large number of instances in which a female domestic servant was the only person attacked in a large household. The theory of infection emanating from the hospital was difficult to sustain in these circumstances, the true explanation, doubtless, being that the illness was contracted by visiting in infected localities—often on the "Sunday out." The following cases are in point :—

M. A. B., domestic servant, was admitted into the hospital from Queen's Gate Gardens on 7th April. She caught the disease by visiting her parents at Charlotte Street, Chelsea, on the 26th March, when her brother was lying ill. He was removed to the hospital on 27th March, and shortly after her admission she was followed by six brothers and sisters. (1*)

Some private cases were under treatment at a house in Ifield Road. E. B., a servant, also living in Ifield Road, contracted the disease by visiting fellow servants at this house.

Other domestic servants removed from the same locality were probably infected by these or other private cases treated at home without due regard to public safety, means of isolation, &c., for several of the patients had friends and relatives in the centres of infection whom they visited whenever they got a holiday.

P. W. was admitted from Ifield Road on March 15th. Her parents lived at St. George's Square, North End, Fulham, an infected locality. She knew a family there, an unvaccinated child of which was first taken to a Dispensary by his mother about the 6th day of eruption and then walked to the hospital. She had seen this child about 3 or 4 days before his removal and when on a visit to her parents. (1)

* The figures in brackets refer to the number of the letter in which the case, with name, date, locality, &c., was communicated to me by the Medical Superintendent.

A man from St. Pancras took the disease by visiting a friend at Walham Green who died in the hospital. Two other cases, at Onslow Gardens and Redcliffe Square, were traced to similar visitation. (13)

At the district schools, Marloes Road, several cases occurred, and there was reason for believing that the children had caught the disease when visiting their friends in infected localities, or by friends visiting them at the schools. (9)

Many cases occurred of people contracting small-pox from having lived in the same house with a sick person confined to one room : the atmosphere of the house having become infected. The danger, of course, is greatly increased when the sick person is allowed to roam about the house.

Washing infected clothing was in several cases the immediate cause of an attack.

Persons have fallen victims to the disease from having gone unsuspectingly into an infected house when having come from other parts of the Metropolis or the country.

Cases were admitted of persons who had resided in the locality only from four to eight days, and who had been *employés* in small shops at the East End.

The following cases illustrate the spread of disease owing to the nature of a first case not having been recognized :—

A lady fell ill, and being the sister of an officer of the hospital it might have been thought she took the disease through him. The history of the case, however, was as follows :—The lady's parents came from India in May. Before they landed some friends of a fellow passenger came on board, one being a child having an eruption on him. This child played with her brother, on whom an eruption, supposed to be chicken-pox, appeared in about a fortnight. Twelve days later the sister fell ill. The case was at first supposed to be measles or chicken-pox, but turned out to be confluent small-pox. (15)

A servant, who was taken ill at Coleherne Road, was sent to Camden Town prior to her removal to the hospital, in the belief that the case was one of chicken-pox. (26)

Some of the following cases, near the hospital, are interesting if only as illustrations of deception practised to conceal the occurrence of previous illnesses.

A woman was admitted in May from a house in Farm Lane, Fulham,—a street across the fields in front of the hospital. On the previous day, her husband had been admitted ; he walked down to the hospital and pretended he did not know how he caught the disease, but inferred that he might have done so from living

near the hospital. His wife, however, confessed that she had been nursing two cases in Harwood Road, Fulham, at some distance from the hospital, and where her husband used to visit her. Her patients were not isolated, and were, after a few days, allowed to roam about the house at will. The woman herself, a laundress, carried on her business while she was nursing the cases. (9 & 10)

A boy from Merton Road, admitted in June, pretended he did not know how he caught the disease, but it appeared that two relations of his had been admitted, one from Lambeth into Stockwell Hospital, and one from St. George's into Fulham Hospital, from one or other of whom he had contracted the disease. (16)

On the 16th May a man was admitted from Lillie Bridge Road, a street near the hospital. He had four weeks previously engaged as servant a girl recovering from small-pox, who remained in his house only three days. His son took the disease from her, and was treated at home; the father doing his shop business and nursing his child until he himself fell ill. (10)

At the same time there was a woman suffering from the disease, and not isolated, in a street (Rickett Street) still nearer the hospital. (10)

The disease is often spread owing to the concealment of a first case.

A child died at home, the only disease named in the certificate of the cause of death being "congestion of the lungs." Six cases of small-pox were shortly afterwards removed from the same house. (1)

A fatal case in Fulham was disclosed by the certificate of death. This case gave rise to nine others in the same family (three fatal), and five among their friends, directly infecting four houses in four streets. (1)

A similar outbreak in Chelsea, not far from West Brompton, was due to a concealed case in Godfrey Street, and 29 cases from different adjoining streets were traced to this case, including the landlord of a public house who was removed to the Highgate Hospital. (1)

Four boys from Paddington, and attending one school, were admitted, three of whom caught the disease from a fatal concealed case; this concealed case gave rise to four cases in Paddington and one in St. Pancras. (22)

Prevalence of the disease in one and the same street is explained by non-removal of cases. Many such examples could be quoted, the following will suffice:—

There has been about 18 cases admitted from Slaidburn Street, Chelsea. Ada ——— removed from an infected house in this street, stated that her mother's child had just died after three days' illness with pains and hemorrhage. Her sister sat as a model to an artist, who subsequently suffered from small-pox at Redcliffe Road. (4)

E. L. was admitted from Child's Place, having taken the disease, as she believed, from a boy under treatment in a house opposite her own, through contact with the boy's father whom she constantly met, as well as other inmates of the same house. Subsequently a case was removed from the house where the boy was ill.

Another case happened in this street, and the sick child's father, a carpenter, was engaged at the time amongst ladies arranging the stalls for a bazaar at the Kensington Vestry Hall. (18)

W. J. B. was admitted 6th May from a house in Earl's Court Road from which W. Y. had been admitted on the 24th April. From another house in Earl's Court Road a man was admitted on May 11th, who had contracted the disease by visiting W. J. B. when ill. W. J. B.'s father was subsequently admitted. (5 & 6)

Infected families and persons frequently migrate, and cases of this kind are known in connection with houses in Ifield Road, Adrian Terrace, Finborough Road, and other streets in the vicinity.

A railway inspector living at Notting Hill had a child suffering from small-pox. He left him in charge of somebody, and migrated with the rest of his family to Walham Green, in the vicinity of the hospital; here his wife died of small-pox in a fortnight's time. Then he removed to Hammersmith, and here his un-vaccinated son took the disease, and once more the family removed to another locality. (1)

A. E. S. of Millwood Street, Notting Hill, was taken ill April 26th, and at once migrated to South Street, St. Mark's, Fulham Road, where her mother lived, being removed to hospital on the 28th. (2)

A woman was removed with her suckling baby on the 19th March from a house in Ifield Road, and the rest of the family at once migrated to Adrian Terrace.

Numerous patients have walked down to the hospital with eruptions on them. Two such cases were admitted from Redcliffe Gardens and Finborough Road, in March (1). It can readily be conceived what harm they may have done. Some such cases have already been noticed. The following further cases will suffice :—

May 20th, N. W., was admitted from Victoria Grove, on the 8th day of eruption. He had contracted the disease from a person in his employ who came to call on him after an absence due to illness. N. W. was removed only when he had become dangerously violent from delirium, and after preaching to crowds of people in the street. He had escaped from his house, and went to the house of a friend in Devonshire Terrace, where he remained only a few minutes. A woman from this house was in due course removed to the hospital. The man died. One of his children was subsequently admitted. (11)

A man walked from Adrian Terrace to the hospital, having first gone to the house of a doctor near Markham Square, Chelsea, by whom he was advised to

go to the hospital. The same thing happened in another case from a doctor's house in Gloucester Road ; and another from a house in Redcliffe Gardens. (17)

A boy was admitted from Philbeach Gardens. His father did not like having an ambulance at his door, and so he walked the lad down to the hospital. (19)

The following are cases of unintentional exposure in public places :—

May 26th, a child was admitted, a few days after his father, who caught the disease from a young man just up from Margate on the first day of eruption. This young man, not feeling much indisposed, did not mind the journey, but he must have infected his associates in the train. He was subsequently removed to the hospital. (12)

A woman was sent from Bolton Gardens to St. George's Hospital. She had gone to the hospital in a cab, which had driven off before the nature of the case was known. The cab was not disinfected. (12)

Another woman went from Cromwell Road to Grafton Street, Piccadilly, whence she was detained in a doctor's house till she could be removed to the hospital. (12)

The following case, the last I shall quote, has no connexion *quâ* origin with the locality of Fulham Hospital, but it is too striking to be omitted.

A man servant from Belsize Road was taken ill June 26th, and went into the country. Two or three days after his arrival at Sudbury spots appeared on him, and as he got worse he returned to Town, June 30th, and went to a hospital as an out-patient. He was found to have small-pox, and directed to go to Hampstead Hospital. He walked to Farringdon Street Station, went by rail to Swiss Cottage, and then walked to the hospital. But as the hospital was closed the person in charge forwarded him on to Fulham in the ambulance. (21)

It would have been easy to swell the list by numerous histories to the same or similar effect. Those given are but types, selected from an experience of less than three months. They may suffice, however, to illustrate modes of spread of infection, which are little regarded by the opponents of the hospital, and are indeed, it is probable, unknown to most of them. It is very easy when a number of persons fall ill in different localities at about the same time (though not very consistent when their homes surround the hospital at all points of the compass), to ascribe their illness to infection carried by the wind. But those who have opportunities of investigating cases,—and such opportunities are practically limited to medical officers at the hospital,—are often enabled to trace the spread of infection from person to person, and from street to street in a way perfectly satisfactory, but wholly unsuspected by outsiders. The tongue is unloosed under the

influence of kind treatment in the hospital, and in one way or another the truth sooner or later leaks out.

It has been with no slight regret that I have felt myself obliged to refer again, and at such great length, to this vexed question of the hospital: but so long as the establishment is assailed, I have no choice. It is necessary that your Vestry and the public should, from time to time, be informed how the matter really stands: otherwise judgment might go by default. The accusers of the hospital have recently applied to the Local Government Board for an enquiry, and for my part, I should not be sorry to see their request granted, as it would probably have the effect of putting an end to an agitation which is useless and, at the same time, injurious to the district.

THE HAMPSTEAD SMALL-POX HOSPITAL CASE.

This important case has now reached the House of Lords: but it is doubtful whether it will be argued during the current session. Meanwhile the hospital is closed—a matter of the less moment as the remaining hospitals are more than sufficient for the number of patients requiring to be admitted. Whatever the issue of the Managers' appeal against the adverse verdict, the consequences will be important to the public in a sanitary point of view. Should it go against the Managers, it is more than probable an attempt will be made to close Fulham Hospital, amongst others, though with little prospect of success, the circumstances of the two hospitals, *quâ* situation and surroundings, being so different. Be this as it may, there can be no doubt it would be for the general good that the Managers should succeed, as otherwise they could hardly carry on their work within the Metropolis: and it is notorious that the further patients are taken from their homes, the greater is the danger incurred in their removal—the less the prospect of their recovery. It would follow that many cases which, under existing arrangements go into hospitals, would, in less favourable circumstances, be kept at home, to the increase of danger of the spread of infectious diseases among the community.

HOSPITAL ACCOMMODATION FOR CASES OF INFECTIOUS DISEASE.

In an "addendum" to my last annual report, I referred to sect. 15 of the "Poor Law Act, 1879," as an attempt by the late Government

to deal with the important question of hospital accommodation. The Sanitary Act, 1866, (sect. 37), authorizes Vestries and District Boards—being the “Nuisance Authorities,”—to provide hospitals for the “sick inhabitants” of their respective districts. The power conferred by this section has not been exercised, for in 1867 the “Metropolitan Poor Act” was passed, under the provisions of which hospitals for small-pox and fever were erected by the Managers of the Metropolitan Asylum District—this Act, by a general provision for the whole Metropolis, thus virtually superseding the necessity for separate action on the part of the Vestries, &c. The Managers having thus begun a great work which legally devolved upon the Vestries, and having almost met the requirements of the Metropolis by providing accommodation out of all proportion to the needs of the pauper class, with which alone, theoretically, they have to do, have always expressed willingness to complete the task if called on to do so.

In January, 1877, however, the pressure of the small-pox epidemic being somewhat severely felt, the Local Government Board addressed a communication to the several Vestries and District Boards calling their attention to the provisions of the 37th section of the Sanitary Act, 1866, “urging them to ‘provide accommodation’ for that large class of persons not needing relief, but whose isolation in hospitals is necessary for preventing the spread of the disease.” In the event, no steps were taken to give effect to the views of the Board, but in March, 1879, a deputation from a ‘Conference’ of Vestries, &c., waited upon the then President, Mr. Selater Booth, the principal object of the Conference, as it ultimately took shape, being to induce the Government to obtain Parliamentary powers to enable “Nuisance Authorities” to enter into contracts with the Managers of the Metropolitan Asylum District for the reception and treatment in their hospitals of non-pauper cases of infectious diseases, at the cost of the several Vestries, &c. The President intimated his willingness to do this—as he had already made the attempt in the abortive “Public Health, (Metropolis) Bill, 1877,” which was defeated by the opposition of the Vestries—and accordingly, on the last day of the Session, “The Poor Law Act, 1879,” became law. By section 15 of this Act the Managers are now enabled, with the approval of the Local Government Board, to contract with any Vestry, &c., in the Metropolis (as the “local authority” acting in the execution of the Nuisances Removal

Act, 1855, &c.) for the reception and maintenance in the hospitals of the Managers of any person suffering from any dangerous infectious disorder within the district of any such Vestry, &c. ; and any person received into an hospital by virtue of any such contract, will be deemed to be maintained in such hospital by the Vestry, &c., with whom the contract is made. It is further enacted that expenses incurred by the local authority (*i.e.*, Vestry, &c.) for the maintenance of any person under this section shall be deemed to be due from such person to the local authority, and may be recovered, by the local authority from him, or his representatives, at any time within six months after his discharge from such hospital.

Referring to this section, I remarked that the powers thus given to the sanitary authority to contract for the maintenance in hospitals of non-paupers, is a round-about way of depauperising the relief afforded to such persons in the hospitals belonging to the Managers, which are essentially pauper establishments. The power given to the sanitary authority to recover from the sick person, or his representatives, the expenses incident to his treatment in the hospital may possibly be found useful in occasional instances ; but, put plainly, it amounts to this—that the sanitary authority, having for the protection of the public health, succeeded in getting a person to consent to be isolated in a pauper establishment, side by side with paupers, may upon his discharge therefrom, or on his death occurring, proceed to recover from him, or his representatives, the costs incurred by them—on his account doubtless, but for the protection of the public rather than for the safety of the patient himself. If this power should be at all generally exercised by the Vestries, &c., it would more than neutralise any benefit likely to accrue from the discretion they now have to contract with the Managers for the reception and maintenance of non-paupers. It is, therefore, to be hoped that in any district where such power may be exercised very great care will be taken, so that payment may be exacted of those only who are well able to pay, and who may have sought the assistance of the Vestry, &c. There is, really no reason however, why any person so situated should seek the assistance of the sanitary authority at all, for it is quite certain that the expenses incurred at any one of the hospitals belonging to the Managers in the treatment of a case of fever or small-pox, would, (unless the patient died very speedily after admittance), usually exceed the charge made

at the London Fever Hospital, or at the London Small-Pox Hospital (which are *not* pauper establishments), viz., two guineas and four guineas, respectively, per case, irrespective of the duration of the patient's illness.

I never felt very sanguine that the Section would effect the object in view, and hitherto it has remained, practically, a dead letter. Towards the close of the year, however, the Managers consulted the Local Government Board, on the desirability of their taking steps to ascertain the feeling of the Vestries, &c., on the "new and important" provision of law referred to; the Board, in reply, expressing the opinion that "most, if not all of the Vestries, &c., would readily enter into agreements, which would have the effect of releasing them from the heavy responsibilities under which they lie, in respect of hospital accommodation for the non-pauper classes." "It is very probable," the Board said, "that it may not be found necessary to greatly increase the accommodation already at the disposal of the Managers, who as is well known, have been by force of circumstances obliged, during the last two epidemics, to admit many patients for whose treatment, the Vestries, &c., would have been liable had the Sanitary Acts in that behalf been strictly observed, and had there been no substitute ready to hand in the hospitals, provided under the Metropolitan Poor Act. It will obviously require great care," the Board continued, "to frame regulations which shall draw the needful line of distinction between pauper and non-pauper patients, and place the incidence of charge, and the administration generally, on a more satisfactory footing in future." The Board concluded by offering to "render the Managers any assistance or advice in their power in framing any such regulations or agreements."

Shortly afterwards the Managers addressed a circular letter to the Vestries, &c., asking to be informed whether they desired to avail themselves of the provisions of the clause in question, and, if so, what would be the approximate number of beds, they severally would wish to be provided for them? The Managers subsequently published a "Synopsis of replies," received from thirty-six Vestries, and District Boards of Works, which may be thus summarised. About sixteen vestries ask for further information on various points; two refuse to adopt the Act; two will take no action at the present time; two have made arrangements elsewhere: one defers the consider-

ation of the question; half-a-dozen return irrelevant or indefinite replies; while seven express, in more or less general terms, their readiness to enter into arrangements with the Managers.

A copy of these replies was forwarded to the Local Government Board for their consideration, with what result remains to be seen: but certainly the replies themselves do not appear to advance the subject very much, nor do they quite realize the sanguine expectations of the Board. Possibly the vague character of the replies may in some measure be accounted for by the very general nature of the questions submitted by the Managers. No Nuisance Authority could answer the second question—as to the number of beds required—with any precision until “the needful line of distinction has been drawn between pauper and non-pauper patients,” and the question must perforce remain open until such distinction shall have been drawn.

It is well known that one part of the Metropolis may be comparatively free from an infectious disease prevalent in other parts: and that an epidemic is apt to travel from place to place, so that before it is at an end every part of the Metropolis may have been visited in turn. Hence the Vestries not unreasonably object to engage and pay for a fixed number of beds, for which, during considerable periods, they might have no occasion. The only perfectly satisfactory mode of dealing with the question would be, as I have often before stated, to spread the burden of infectious disease over the whole Metropolis on a “common fund,” and to give free admission to all sick persons desirous of being isolated in the hospitals, or who may be sent to them for isolation (excepting only such persons as may be able to pay for medical treatment, &c., and these should go to the London Fever Hospital or the London Small-pox Hospital). Until this is done the most rational way of settling the matter under the provisions of the new Act, would be for the Managers to fix a tariff of charges per case *per diem*, calculated on the known cost for maintenance and administration, and let each Nuisance Authority pay for its own sick on the approved scale.

“DISQUALIFICATION BY MEDICAL RELIEF.”

In my last Annual Report I referred to an attempt made by certain members of Parliament, irrespective of party, to deal, in what I believe to be the only satisfactory manner of dealing, with the subject

of "hospital accommodation" for cases of infectious disease, viz., "by depauperising the relief afforded in the hospitals of the Managers." The "Disqualification by Medical Relief Bill," endorsed, amongst others, by the senior member for the Borough, now Under-Secretary of State for Foreign Affairs, passed through the House of Commons; but, having been ruined by Government amendments moved by the Lord President of the Council, was abandoned after the second reading in the Upper House.

It is not probable that the subject will be dealt with in the few remaining weeks of the current session, but I note with satisfaction a growing tendency to regard with approval the principle of "depauperization" adopted by your Vestry.

The subject is becoming ripe for legislation. The hospitals exist: the accommodation is nearly sufficient: and a principal question is:—To what authority shall the duty of administering them be permanently relegated? The Managers are willing to continue the work they have so well begun, and for my own part, I say now, as I said years ago, that I should be content to see the matter left in their hands. Let them provide accommodation for all comers; and let the charges be defrayed out of a Metropolitan rate or common fund. Maintenance and treatment of the sick in the hospitals should be placed on the same footing as public vaccination, so as not to entail any sacrifice of social or political status on the recipients of assistance, it being to the interest of the community at large, to deal with infectious diseases at the public cost so far as regards hospital treatment. This plan has the merit of simplicity, involves the fewest changes, and would entail little or no delay in execution. But if these conditions are deemed inadmissible, I would sever the hospital treatment of infectious disease from all connexion with Poor-Law administration. This might be effected by the constitution of a "Central Authority" (on the plan of the Metropolitan Board of Works), to be elected by the Vestries and District Boards of Works, and having power to take over the hospitals and provide accommodation for all persons "whose isolation in hospitals is necessary for preventing the spread of disease."

This "public hospital" system would probably entail some additional expense on the ratepayers, but none commensurate with the benefits that would accrue from the safe treatment of infectious diseases which is the object in view; and whatever the increase in cost it would be

borne in the same spirit as the charge rendered necessary by the establishment of a fire brigade; for it would be regarded as a premium paid for insurance against a risk as much more serious than fire, as health and life are more precious than property.

Special provision might be made at each hospital for persons who are able and willing to pay for their maintenance, if room for such cases cannot be found, or made, at the London Small-Pox Hospital and the London Fever Hospital.

But all others—the poor ratepayer, the dependent classes and those sick persons whose isolation is enforced or solicited for the good of the community, viz., with a view to prevent the spread of disease—should have free admission.

It is, perhaps, hardly necessary to point out that these are the classes for whom our voluntary general hospitals (where infectious cases are not admissible) have been established and are supported. Nominally excluded from the Asylums they yet form the great bulk of their inmates through the wise disregard by the Guardians of the strict letter of the law. Sanitary Officials have had difficulty enough in persuading many such persons to go into the hospitals, and the refusal of others has frequently led to an extension of disease. What proportions the recent epidemic would have attained had the generality of such cases been excluded can be better imagined than described. The exaction of payment from the sufferers will be fatal to any scheme which aims at complete isolation.*

*“On the admission of patients” to the hospitals, I cannot refrain from quoting some observations by Dr. COLLIE, Medical Superintendent of Homerton Fever Hospital, in the paper on Small-pox hospitals already referred to. He says that, for the admission of patients “there ought to be no formality, and no sort or kind of difficulty From a public health point of view admission ought to be entirely free of any formalities whatever” (Dr. Collie is alluding to the forms necessary under existing Poor-Law machinery, and the delays to which they give rise). “Presuming that there would be a resident medical officer at the hospital, certificates might be entirely dispensed with. Let it be well understood that any person having the disease will be admitted on presentation. Our object, as public health authorities, is to induce people to go into hospital—that of the Poor-Law authority is to keep people out; and, therefore, admission to Poor-Law hospitals is attended with much formality, which may be necessary enough from a Poor-Law point of view, but which is fatal to the prompt isolation of infectious disease, and, therefore, to efficient sanitary administration.”

The views here expressed may, perhaps, be thought, a little too extreme, but if so they err in the right direction. The only remedy for the present dead-lock is to separate the treatment of infectious disease from all connexion with the Poor-Law system and pauperism.

AMBULANCES.

The 16th section of the Poor-Law Act, 1879, confers power on the Asylum Board to provide Ambulances for the conveyance of sick persons to the hospitals of the Managers. At present the Managers require ambulances only for the conveyance of sick or convalescent cases between their hospitals. In some parishes the Vestry (Nuisance Authority) and the Guardians (Poor-Law Authority) both have ambulances : in others the Vestry or the Guardians alone. There being some 39 Nuisance Authorities and 30 Boards of Guardians it would appear that a not inconsiderable saving might possibly be effected should the Managers find it practicable to give effect to the section—replacing the existing arrangements by a uniform system of ambulances connected with the several hospitals, five in number. A strong motive for the adoption of this plan is supplied by the necessity now admitted of disinfecting parochial ambulances before they leave the hospital premises.

PREVENTION OF THE SPREAD OF INFECTIOUS DISEASES

Is one of the chief duties appertaining to the office I hold ; and it is one which constantly engages the attention of all the officers in my Department. A difficulty with which we have to contend is the want of information of the occurrence of non-fatal cases of illness—information that would be of the greatest value, particularly at the commencement of an epidemic when the first cases are usually mild ; and it has been my constant endeavour to increase our sources of such information.

It may not be out of place to state here what progress has been made :—

1. By virtue of an arrangement entered into between your Vestry and the sub-district registrars of deaths, eight years ago, I duly receive notice of all deaths from the graver infectious diseases (small-pox, scarlet fever, diphtheria, typhus, enteric and simple continued fevers), within a few hours after they have been registered. It may be observed that when a death has occurred from an infectious disease there is always a probability of finding other cases of illness in the same house or

in the locality, and such discovery not unfrequently results from the Sanitary Inspector's visit. Now and then the registration of a death has been unduly delayed—sometimes probably with the object of temporary concealment of the cause of death. It would be well if registration within a limited period, say twenty-four hours, were made compulsory.

2. The Relieving Officers, by direction of the Board of Guardians, report all cases of infectious diseases that come under their cognizance, and generally these are cases that have been, or are about to be, removed to the hospitals of the Metropolitan Asylum District, admission to which (practically denied to no person) can only be obtained on the order of a relieving officer, or the master of a workhouse.
3. Similar information is given by the Resident Medical Officer of the Kensington Dispensary, by direction of the Committee of Management. We seldom hear of sickness through any similar institution; and it is a matter of regret that many cases that ought to be removed to the hospitals are treated at home by medical men attached to so-called "provident dispensaries."
4. Medical men favour me occasionally with information of cases, and more especially when they desire assistance in order to get the sufferers (*e.g.*, domestic servants) removed to hospitals.
5. In my annual report for 1877, I referred to what I thought to be a somewhat important step in advance that had then lately been effected through the action of the London School Board, which, at my request, had instructed the Superintendents of Divisions throughout the Metropolis to desire the "Visitors" to report to the several Medical Officers of Health any cases of infectious disease that might come to their knowledge in the discharge of their official duties, which take them constantly into the homes of the poorer classes. To facilitate the transmission of this information by the Visitors, your Vestry authorized me to prepare a form for their use, which has been done. I must say, however, that hitherto the resolution of the Board has not at any time been attended with the hoped for results, comparatively few cases having been reported. During the past year, moreover, the Board have shown a disposition to recede from the position they had taken up. At any rate, on my calling

their attention to the omission on the part of the visitors to report cases, the "divisional members," to whom my communication had been referred, simply agreed that the visitors should report cases when they had reason to suppose that no duly qualified medical man was in attendance. "When a duly qualified medical man has charge of a case, they are not prepared to do more than take steps for seeing that proper precautions are taken at the Schools." This decision, if final and acted upon, would be regrettable, as I am sure the Visitors *could* render us essential assistance by giving effect to the original instructions of the Board.

6. Clergymen and District Visitors not unfrequently report cases of sickness.
7. The Resident Medical Officers of St. George's and St. Mary's Hospitals have on many occasions reported the admission of cases, or the application of inadmissible cases of illness from houses in this parish.
8. Occasionally anonymous communications are the source of information, for I have not felt at liberty to disregard such communications, which have generally proved accurate.

In one or other of these several ways cases come to our knowledge; but, all told, they form only a small percentage of total cases, as proved by the fact that the great majority of fatal cases remain unknown till after registration of death—a fact from which it is a fair inference that a still larger proportion of non-fatal cases never come to our knowledge at all.

The only remedy for this regrettable state of affairs is legislation to ensure the compulsory disclosure of the occurrence of infectious diseases. The main question with sanitarians is, Who should be the informant? As a rule the information will have to come, directly or indirectly, from medical men. In those cases, however, and they are not few, where either no medical aid is sought, or where unregistered practitioners are employed, the information, if supplied at all, must come from the head of the family or from the "occupier" of the house. When there is a duly qualified medical man in attendance it would suffice to require that he should give a certificate stating the nature of the complaint which it should then be the duty of the head of the family, or the

occupier of the house, to forward without delay to the sanitary authority, as is done now in respect of the medical certificate of the cause of death for registration. This is the plan recommended by the Society of Medical Officers of Health, and it is, I believe, the course adopted in those boroughs where under *Local Acts*, the disclosure of these cases has already been enforced. The number of such places increases every year, and Edinburgh has now to be added to the list. The extension of the plan in a tentative manner evidently meets with favour from the Central Sanitary Authority. We may, therefore, justly feel encouraged to hope that the principle will sooner or later be carried out in some legislative enactment of general application. Having regard to the relations of doctor and patient, it is useless to expect that the desired information will be at all generally given by medical men until it is made their duty as law-abiding citizens to supply it; and even then the exaction should be made as little onerous as possible, whether or not the public service rendered by the giving of such certificates be recognized by the payment of a suitable fee.

POPULATION, INHABITED HOUSES, &c.

The estimated population of the parish at the middle of 1879 was 156,250. Credit has been taken for an increase of 2,650 during the year, viz., 2,200 excess of births over deaths, and 450 balance of immigration over emigration. The number of inhabited houses was 20,210; of these, 491 were newly brought into rating during the year. As the average number of persons to a house (ascertained at the census) is 7·8, it is probable that the gross population is here rather under-estimated than otherwise.

It is difficult, if not impossible, to estimate with accuracy the population of the sub-districts, or the relative numbers of the sexes, so many years after the census, and in a parish which has developed at once largely and irregularly. I cannot pledge myself, therefore, for the correctness of an estimate of 116,050 and 40,200 as the population of Kensington Town and Brompton respectively. Still less can I guarantee the estimate which would give an excess of 29,000 females over males, the number calculated on an assumption that the relative proportions of the sexes are the same now as in 1871. That there is a very great discrepancy in the relative numbers of the sexes is certain; but whether there are so many as 92,650 females to 63,600 males, we shall not be able to ascertain until the census next year shall have given us reliable data. The redundancy of females is in part explained by the fact that there are a large number of female domestic servants, as always happens in a wealthy district. The healthiness, and even the fashionableness of the parish, contributes to make it a favourite place of residence. And there are many girls' schools. The superior longevity of the female sex, moreover, comes into play in course of years, and is a factor in creating the disproportion under consideration.

The subjoined table shows the numbers of the sexes at different ages, in 1871 :—

AGES OF MALES AND FEMALES, 1871.

All Ages.	Under 5	5 to 13	13 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to 95	95 and upwds.
Males, 48977	7065	10198	8948	8317	5963	4339	2464	1270	378	33	2
Females, 71322	7147	11527	16585	14203	9080	6241	3768	2000	667	97	7
Total, 120299	14212	21725	25533	22520	15043	10580	6232	3270	1045	130	9

The density of the population varies greatly no doubt in different parts; but taking the parish as a whole, and making no allowance for open spaces, the density is about 71 persons to an acre. Among the open spaces referred to may be mentioned the Cemeteries at Kensal

Green and Brompton ; Holland Park, and land at Notting Hill (north of Lancaster Road), and at Earl's Court (west of Warwick Road). It is probable that the available building land does not now exceed 300 acres.

MARRIAGES.

The number of marriages in 1879 were 1,428 ; of these there were celebrated—

By the Church	...	...	...	...	1,160
At Roman Catholic places of worship	...	...	...	...	84
At Nonconformist	„	„	...	...	58
At the Superintendent Registrar's Office	...	...	...	...	126
					<hr/> 1,428

The marriage-rate, *i.e.* persons married to 1,000 population, was 18·3. The average rate in England and Wales in 1878 (latest year of publication) was 15·3 ; a rate lower than any since 1873, and due to the unfavourable commercial condition of the country. It will be seen, on reference to Table I (Appendix), that notwithstanding a considerable increase in population, the marriages in Kensington fell off largely in 1878, and the number in 1879 was only nine above the number in 1876. The marriage rate, nevertheless, was much above that of the country generally in 1878, having been 17·3 per 1,000. As we shall see in the next section, however, notwithstanding the high marriage-rate, Kensington has a low birth-rate, due, no doubt, to that disproportion in the numbers of the sexes referred to in the previous section.

BIRTHS AND BIRTH-RATE.

Four-thousand-seven-hundred-and-ninety births (males 2,474 and females 2316) were registered in 1879, viz., in the Town sub-district 3857, and in Brompton 933. This total shows an increase of 185 upon the number in 1878. The birth-rate, which is considerably below that of the Metropolis and of the country generally, was 30·6 per 1000 population, 1·0 per 1000 below the decennial rate. The rate in the Brompton sub-district was only 23·8, that of the "Town" being 32·6; and that of the Metropolis, 36·5 per 1000. There was one birth to every

32·6 persons living, and there were 106·8 male births to 100 of females. The illegitimate births were 223,—196 of them having been registered in the Town sub-district, which includes the parish workhouse, at which there were 107 illegitimate children born out of a total of 129. The illegitimate births formed 4·6 per cent. of total births. The subjoined table shows the quarterly numbers of births registered, of each sex, and in the sub-districts :—

	KENSINGTON TOWN Sub-District.			BROMPTON Sub-District.			Grand Total.
	Males.	Females.	Total.	Males.	Females.	Total.	
1st Quarter	489	483	972	131	103	234	1206
2nd „	494	446	940	104	88	192	1132
3rd „	471	457	928	125	127	252	1180
4th „	522	495	1017	138	117	255	1272
Totals...	1976	1881	3857	498	435	933	4790

Additional particulars respecting births and birth-rate, &c, for the decenniad, will be found in Tables 1 & 2, Appendix.

DEATHS AND DEATH-RATE.

The deaths in 1879, in 53 weeks, were 2,966—males 1439, and females 1,527—as against 3,096 in 52 weeks in 1878. Of these deaths, 2,304 were registered in the Town sub-district, and 662 in Brompton. The total in the Town includes 281 at the Parish Infirmary and Workhouse, and 40 at St. Joseph House, Notting Hill. The total in Brompton, includes 110 at the Consumption Hospital. Of these 110 deaths, 106 were of non-parishioners, which, following custom, I retain in the vital statistics by way of compensation for the deaths of parishioners that may have taken place in public institutions or elsewhere outside the parish. The death-rate, whole parish, was 19·1 per 1000, or 0·1 below the decennial rate. The registration year, however, comprised 53 weeks, a fact which tends to obscure in some degree the favourable character of the vital statistics generally. For a year of 52 weeks the rate would have been 18·7 or 0·5 per 1000 below the decennial average. The rate in the whole Metropolis was 23·3 per 1000. Assuming for the occasion the accuracy of the estimates of population in the sub-districts, and of the number of males and females respectively, it would appear that the death-rate in

the Town sub-district was 20·0 per 1000, and in Brompton 16·5 per 1000; that the rate in the male sex was 23·0 per 1000, and in the female, 16·4 per 1000. There was one death among males to every 43 persons living, and one in 61 among females. There were 103·2 deaths of females to 100·0 of males, and taking the entire population into account, one death to 52·2 persons living. Compared with 1878, the deaths of males show a decrease of 52, and of females 53. The deaths of children under one year of age were 722, a decrease of 101 as compared with the number in 1878, attributable to the diminished fatality of whooping-cough and diarrhoea. These 722 deaths were equal to 15·1 per cent. on births registered, and to 24·2 per cent. on total deaths, the equivalent percentages in the whole Metropolis being 14·8 and 23·2. The deaths under five (1218) were fewer by 211 than in 1878, and were equal to 25·4 per cent. on registered births, and to 40·8 per cent. on deaths; the corresponding percentages in the Metropolis being 26·6 and 41·3. The deaths at sixty and upwards were 713, 56 more than in 1878—equal to 23·8 per cent. on total deaths, the equivalent percentage in the Metropolis being 22·6.

The deaths of illegitimate children under five were 100, nearly 45 per cent. on illegitimate births, and all but seven of them were in the Town sub-district. Of the 100 only 14 outlived the first year, and of these 8 died between 1 and 2; 3 between 2 and 3; 2 between 3 and 4; and 1 between 4 and 5 years. The causes of death were—measles, whooping-cough, and diphtheria each 1, diarrhoea 7, lung diseases 14, other visceral diseases 2, scrofulous or tubercular affections 33, convulsions 10, apoplexy (at four months) 1, want of breast milk 2, thrush 4, teething 3, premature birth 7, debility from birth 4, syphilis, hemorrhage from umbilicus, and “unknown,” each 1; violence 7—including “wilful murder” 1, “blow on head” 1, and suffocation 5.

A large proportion of illegitimate children are brought up by hand and by strangers. The evidence of improper feeding is apparent enough in the foregoing list of fatal diseases. The proportion of deaths by violence is excessive—12·5 per cent. including the case of neglect to secure the umbilical vessels at birth. The 86 deaths under one, are equal to about 40 per cent. on the registered illegitimate births, the equivalent rate for all children being 15·1.

The subjoined table shows the quarterly numbers of deaths of the sexes in the sub-districts :—

KENSINGTON TOWN Sub-district.			BROMPTON Sub-district.			Grand Total.
Males.	Females.	Total.	Males.	Females.	Total.	
333	377	710	81	115	196	906
281	293	574	88	97	185	759
224	219	443	57	54	111	554
290	287	577	85	85	170	747
1,128	1,176	2,304	311	351	662	2,966

The deaths in the first and fourth, or colder quarters of the year, (1653) exceeded by 340 the number in the intermediate second and third, or warmer quarters (1313). This great difference was largely due to the fatal prevalence in winter of lung diseases, combined with the comparative lowness of the mortality in summer from infantile diarrhoea. The mean temperature of the air during the winter and summer quarters respectively was 38°9 and 53°7 Fahr.

The subjoined table shows the death-rate in 13 periods, corresponding with my monthly reports ; and the mean temperature of the air :—

DATE OF REPORT.		Death-rate per 1,000 living.	Decennial average.	Mean temperature of the air.	Decennial average.	Above or below average.
For five weeks to Feb.	1, 1879	24·7	20·6	33·1	40·0	— 6·9
„ four „	Mar. 1, „	20·3	21·6	38·5	40·0	— 1·5
„ „ „	Mar. 29, „	24·6	21·2	40·8	41·3	— 0·5
„ „ „	April 26, „	24·5	20·3	43·3	47·9	— 4·6
„ „ „	May 24, „	18·5	17·9	47·1	51·0	— 3·9
„ „ „	June 21, „	16·7	16·7	55·5	57·4	— 1·9
„ „ „	July 19, „	13·4	18·0	56·8	62·8	— 6·0
„ „ „	Aug. 16, „	14·8	19·5	61·0	63·2	— 2·2
„ „ „	Sept. 13, „	13·1	16·3	57·9	59·9	— 2·0
„ „ „	Oct. 11, „	15·0	15·6	55·4	53·5	+ 1·9
„ „ „	Nov. 8, „	15·6	18·3	46·1	46·1	av :
„ „ „	Dec. 6, „	19·3	21·4	34·5	40·3	— 5·8
„ „ „	Jan. 3, 1880	19·6	21·6	35·2	36·2	— 1·0
Averages (whole year) ...		18·7	19·2	46·2	49·2	

The detailed causes of death are set out in Table III (Appendix), in 13 divisions, according to age. The ages at death (excluding the

deaths of non-parishioners at the Brompton Consumption Hospital)
were as follows :—

Deaths under 1 year of age ...	...	722
„ between 1 and 2 years ...	...	300
„ „ 2 „ 5 „ ...	...	196
„ „ 5 „ 15 „ ...	...	104
„ „ 15 „ 25 „ ...	...	89
„ „ 25 „ 35 „ ...	...	151
„ „ 35 „ 45 „ ...	...	224
„ „ 45 „ 55 „ ...	...	224
„ „ 55 „ 65 „ ...	...	279
„ „ 65 „ 75 „ ...	...	311
„ „ 75 „ 85 „ ...	...	209
„ „ 85 „ 95 „ ...	...	47
„ „ 95 and upwards ...	...	4
		<hr/> 2860

SPECIAL CAUSES OF DEATH.

CLASS 1.—ZYMOTIC DISEASES.

Having already (at page 8) dealt with the deaths from the “seven principal diseases” of the zymotic class, I now proceed to make some observations on the mortality from the remaining diseases included in the first “Order” in this “class,” viz. :—MIASMATIC.

Croup.—This disease was the cause of 25 deaths all in the Town sub-district, 21 of them being of children under five years of age. Croup would appear, like diphtheria, to be on the increase of late years. There were 13 deaths in 1876, the same number in 1877, 17 in 1878, and 25 in 1879. The deaths in Brompton in the first three years respectively were 3, 2 and 1; in 1879 not one. The deaths

in 1879 were within one the same as from diphtheria and the quarterly numbers corresponded in the first, second and fourth quarters : there being an excess of one from diphtheria in the third quarter.

Erysipelas was the cause of 9 deaths (8 of them in the Town sub-district) : three of them were of children under five years.

Puerperal Fever (*Metria*) was the registered cause of six deaths, the same number as in the years 1878 and 1876. In 1877 the number was 12, and in 1875, 13. Five of these deaths occurred in the Town sub-district, two of them being of women between 15 and 25 years of age, and four between 25 and 35. In addition to these six deaths from Puerperal Fever, there were 18 deaths from "Childbirth," i.e., from diseases, and accidents, as hemorrhage, &c., incident to parturition, making a total of 24 deaths in childbed, or less than 0·4 per cent. on the births registered. *Metria*, it may be added, is a specific disease of a very dangerous, contagious character affecting women in the puerperal state.

Rheumatism was the cause of 15 deaths, 13 of them in the Town sub-district. In many of the fatal cases of rheumatism, the immediate cause of death is heart disease, arising in the progress of the malady. Not a few of the deaths from "heart disease" might doubtless be properly registered under the heading of "rheumatism," as the "primary cause of death," the seeds of heart disease being frequently laid by an attack of rheumatic fever which may have been forgotten long before the end comes. Only one of the 15 deaths occurred under 5: there were four between 5 and 15; 3 between 15 and 25; and 7 between 35 and 75.

Pyæmia, a fatal form of blood poisoning, was the cause of 6 deaths, 5 of them in the Town sub-district, including one of a child under five years.

Ague, was the cause of two deaths.

Order 2. ENTHETIC DISEASES.—The most fatal disease in this order was *Syphilis*, the cause of 15 deaths, viz. :—12 of infants under one year, and 3 of persons between 35 and 45 years. Two of the deaths were registered in the Brompton sub-district. Probably, if

the truth were known, the deaths from this Protean malady would prove more numerous than the record shows.

Stricture of Urethra was the cause of two deaths.

Order 3. DIETIC DISEASES.—Nineteen deaths were caused by the “diseases” named in this order. *Privation* was the cause of one death, and *want of breast-milk* of 7 deaths of infants under one year. “*Alcoholism*” was the cause of 11 deaths, all in the Town sub-district. The deaths due to the abuse of alcohol are classified (a) *delirium tremens*, 4 deaths; and (b) *intemperance*, 7 deaths. If all the diseases and all the deaths due, directly or indirectly, to the misuse of alcoholic stimulants could be traced to their source, the sum total would be very great. Many deaths really due to the abuse of alcohol get registered as having been caused by secondary diseases set up doubtless or aggravated by “drink.” Man’s ingenuity in the discovery of alcohol is accountable for a large part of the misery of his race. Alcohol is a fruitful source of vice and crime, as well as being the cause of much bodily sickness, and of many premature deaths. Drink fills our hospitals and asylums, our prisons, our workhouses, and our national exchequer!

Order 4. PARASITIC DISEASES.—Thirteen deaths in the first year of life, and all but one in the Town sub-district, were caused by *Aphtha* or *Thrush*, the only fatal disease named.

CLASS 2.—CONSTITUTIONAL DISEASES.

The second great Class in the Registrar General’s tables, Constitutional diseases, embraces the causes of 615 deaths, viz. :—502 in the Town sub-district, and 113 in Brompton :—10 above the number in 1878, and 132 above the number in 1877. One-hundred-and-ninety of the deaths were of children under five. The class includes two Orders, viz. :—(1) diathetic diseases, 116 deaths; and (2) tubercular or scrofulous diseases, including phthisis, 499 deaths.

ORDER 1. DIATHETIC.—The deaths from the maladies comprised in this order, 116 in number, viz. :—90 in the Town sub-district, and 26 in Brompton, were *Gout* (9), *Dropsy* (8), *Cancer* (95), and *Morti-*

fication (4). Of the 95 deaths attributed to cancer, 73 occurred in the Town and 22 in Brompton. This disease appears to be on the increase: the deaths registered in the previous five years respectively were 67, 74, 69, 88, and 79. It should be explained that the deaths of all persons who have suffered from cancer, in any form, are classified to that disease, irrespective of any other disease they may have had, and of the question whether death was immediately due to cancer. The majority of the deaths from cancer occur in advanced life, the disease being most prevalent in the aged, having regard to the number of persons living in groups of ages. Last year, cancer appeared first, as a cause of death, in the decenniad 25—35, the number of deaths being three. In the next ten years, 35—45, there were 12 deaths; between 45 and 55, 15 deaths; between 55 and 65, 32 deaths; between 65 and 75, 21 deaths; between 75 and 85, 11 deaths; and between 85 and 95, one death. The parts of the body most commonly affected are the viscera or internal organs, and very frequently in women, the uterus and the breast. The deaths in the four quarters, were 23, 25, 23 and 24 respectively.

ORDER 2. TUBERCULAR.—The diseases included in this order are among the most important with which sanitarians have to deal, and the degree to which they prevail, may be regarded in some sort as a test of the healthiness or otherwise of a population. Generally of a hereditary character, these diseases are nevertheless susceptible of considerable amelioration, if not, like some others, of ultimate extirpation under improved hygienic conditions. Scrofula is unknown in Hygieapolis! Abundance of sunlight and pure air; efficient drainage and its corollary, a dry soil; good food, warm clothing, and temperance in all things are powerful antidotes to the bane of tubercle; which is fostered by the opposites—by filth and squalor, by cold and nakedness, by vice and intemperance, by the want of the proper necessities of life, by overcrowding in ill-constructed, unventilated and sewage-tainted houses; and, in a word, by whatever is inimical to the preservation of a typical condition of health. The cases that occur in the well-to-do classes of society are usually traceable to the influence of heredity. The diseases in this order were the registered causes of 499 deaths, viz.:—412 in the Town sub-district, and 87 in Brompton; 188 of the deaths being of children under 5 years of age.

The numbers in the four quarters respectively, were 143, 141, 104 and 111; 254 in the winter, and 245 in the summer quarters. It is not uncommon to find "phthisis" returned as the cause of death in the earliest infancy, an age at which tubercular disease shows itself in other organs than the lungs. Such deaths, therefore, have been classified to *scrofula and tuberculosis*, the deaths from which were 29: 20 in the town district, and 9 in Brompton; 18 of them having occurred under five years of age. *Tabes mesenterica* popularly known as "consumption of the bowels," was the cause of 82 deaths, 6 of them in Brompton, and all but two of children under five years of age. *Hydrocephalus* (water on the brain), and *Tubercular meningitis* were the causes of 103 deaths (21 in Brompton) 90 of them of children under five. *Phthisis*, the form of disease known as "decline" or "consumption," was the cause of 285 deaths, irrespective of 106 deaths of non-parishioners at the Consumption Hospital. Of the 285 deaths, 234 occurred in the Town sub-district, and 51 in Brompton. The quarterly numbers of deaths were 90, 80, 53 and 62 respectively. Six of the deaths occurred between 5 and 15 years of age; 48 between 15 and 25; 68 between 25 and 35; 84 between 35 and 45; 53 between 45 and 55; 24 between 55 and 65; and 2 between 65 and 75. The deaths from tubercular diseases were disproportionately numerous in the Town sub-district, less than a fifth of the whole number having occurred in Brompton, the population of which is more than a fourth of that of the Parish generally. This fact may be explained by the relatively smaller number of children and poor in Brompton. It is probable that many of the deaths of young children ascribed to such causes as *premature birth, atrophy and debility, convulsions, &c.*, are primarily due to the scrofulous taint. Frequently other diseases, especially of the lungs (bronchitis, pneumonia, &c.), are associated with phthisis in certificates of death, but all such associated diseases are disregarded: when phthisis is stated, the death is invariably classified to that heading.

CLASS 3.—LOCAL DISEASES.

This great class of diseases is accountable for 1375 deaths (*viz.*, 1093 in the Town, and 282 in Brompton), or about 46 per cent. of total deaths: 455 of the deaths were of children under five. The class comprises 8 orders, according to the system or organs affected.

Order 1. NERVOUS SYSTEM.—Diseases of the nervous system were the cause of 297 deaths, including 97 of children under five years. Two-hundred-and-forty-one of the deaths were in the Town sub-district and only 56 in Brompton—a disproportion in favour of the latter sub-district as great as that previously referred to in relation to tubercular diseases. *Cephalitis*—inflammation of the substance of the brain, as *meningitis*, already referred to, is of the coverings of the brain, was the cause of 6 deaths. “*Brain disease*” was returned in 75 instances (9 of them in Brompton), *insanity* in two, and *epilepsy* in nine. *Apoplexy* and *paralysis*, for the most part diseases of the later periods of life, were the causes of 76 and 41 deaths respectively. Of these 117 deaths, 26 occurred in Brompton, and 104 were of persons above 45 years of age. *Convulsions*—a symptom in many diseases, rather than a disease, of infancy—was returned as the cause of 88 deaths (only 15 of them in Brompton). All these deaths were of children under five years, 65 of them in the first year. Convulsions as a cause of death, is frequently returned in connection with many diseases, and in connexion with “teething.” But regarding the spasm as a symptom only, the deaths are classified to the primary diseases named, or to dentition as the case may be. The quarterly numbers of deaths from all diseases of the nervous system, was 98, 93, 51 and 55 respectively.

Order 2. ORGANS OF CIRCULATION.—Total deaths, 166; 122 in the Town sub-district, and 44 in Brompton; under five years of age, 5. The fatal diseases were *Pericarditis* 5, *Aneurism* 11, and “*Heart Disease, &c.*,” 150. The quarterly numbers of deaths were 37, 42, 37 and 50 respectively. Of the 150 deaths due to “heart disease,” there were 3 of children under five, and 17 of persons between 5 and 35. In the decenniad 35–45 there were 21 deaths; between 45 and 55, 26; between 55 and 65 and between 65 and 75 (each) 31; between 75 and 85, 20; and one at 85.

Order 3. RESPIRATORY ORGANS.—The deaths from “chest diseases” in 1879 were excessive; the immediate cause of the increased fatality being the long continuance of cold and ungenial weather. The deaths were 700, irrespective of those from phthisis included with tubercular diseases, viz. :—560 in the Town sub-district, and 140 (one-fifth of the total) in Brompton. The deaths under five were 321, = 46 per cent.

Nine deaths were returned from *spasm of the glottis*, but as these were mostly of infants "found dead in bed," it is open to question whether an examination made, it may be, two or three days after death, would have disclosed any evidence of such a condition as spasm. In the absence of other apparent cause of death, the pre-existence of spasm of the glottis may have been inferred. It is quite possible, to say the least of it, that some of the children may have been "overlaid"—the same remark being applicable to cases in which death is attributed to "convulsions," when the deceased have in like manner been "found dead in bed." *Laryngitis* was the cause of 9 deaths, *Pleurisy* 8, *Asthma* 13, and "*Lung Disease, &c.*," 43. The principal diseases, *Bronchitis* and *Pneumonia* caused 424 and 194 deaths respectively: total 618; of which 119 (less than one-fifth) occurred in Brompton. Of these 618 deaths, 286 were of children under five, and 255 of persons above 55 years of age. The diseases of the respiratory organs are thus seen to be most fatal at the extremes of life. They are also most prevalent in cold, inclement wintry weather. Of the 700 deaths last year—the quarterly numbers being 281, 153, 61, 205—486 took place in the first and fourth or winter quarters, and only 214 in the second and third or summer quarters.

Order 4. DIGESTIVE ORGANS.—The diseases of these organs were the causes of 116 deaths, viz.:—102 in the Town and 14 only in Brompton. Twenty-nine were of children under five years, including 13 from *Jaundice* of the newly born. *Liver Disease* heads the list with 38 deaths (six in Brompton), being followed, among others, by *Jaundice* 18, *Enteritis* 16, and *Peritonitis* 12.

Order 5. URINARY ORGANS.—The deaths in this order were 76 (21 in Brompton), only one being of a child under five. Thirty-eight of the deaths were due to *Bright's Disease* (Nephria or Albuminuria). Among other causes of death were *Kidney disease*, 17; *Cystitis*, 9; *Nephritis*, 5; *Diabetes*, 6; and *Stone*, 1.

Order 6. ORGANS OF GENERATION.—Deaths 11, viz.: *Ovarian Dropsy*, 8; *Uterus disease, &c.*, 3.

Order 7. ORGANS OF LOCOMOTION.—Deaths 2, from *Joint disease, &c.*

Order 8. **INTEGUMENTARY SYSTEM.**—The deaths from the diseases of the skin were 7, viz : *Phlegmon* (Abscess), 5 ; *Ulcer*, 1 ; *Skin disease*, &c., 1.

CLASS 4.—DEVELOPMENTAL DISEASES.

This class contains four orders, and comprises diseases (1) of children, (2) of adults, (3) of old people, and (4) of nutrition. The deaths were 377 (80 in Brompton), including 232 of children under five years of age.

Order 1. **DISEASES OF CHILDREN.**—The total deaths were 107, viz., 82 in the Town sub-district, and 25 in Brompton, all having taken place under five years of age. More than two-thirds of the deaths were registered during the first half of the year. The list is headed by "*Premature Birth*" 62 deaths, 13 of them in Brompton. *Teething* is accountable for 37 deaths (8 in Brompton), convulsions being the immediate cause of death in many of the cases. *Cyanosis* or malformation of the heart was the cause of 5 deaths, and "*other malformations*" of 3 deaths.

Order 2. **DISEASES OF ADULTS.**—The only cause of death under this heading is *Childbirth*, which proved fatal to 18 women (*see* Puerperal Fever).

Order 3. **DISEASES OF OLD PEOPLE.**—Under this heading we have "*Old Age*" only, the cause of 110 deaths above 55 years. In the four decennials between 55 and 95, the deaths were respectively 3, 18, 54, and 31. Four deaths took place at 95 and upwards. Seventy of the 110 deaths occurred in the first half of the year.

Order 4. **DISEASES OF NUTRITION.**—*Atrophy and Debility.* The deaths, 129 (including 22 in Brompton), were of 125 children under five, 110 in the first year ; and of two persons between 55 and 65, and two between 65 and 75 years.

CLASS 5.—VIOLENT DEATHS, &c.

Fifty-nine deaths (29 under five years) are distributed over the four orders comprised in this class, 14 of them belonging to the Brompton sub-district.

Order 1. ACCIDENT OR NEGLIGENCE.—Total deaths, 50 (9 in Brompton), viz. : *Fractures and Contusions*, 20 ; *Suffocation*, 17, all but one of infants under one year ; *Burns and Scalds*, 4 ; *Poison*, 2 ; *Drowning*, 3 ; *Otherwise*, 4.

Order 2. HOMICIDE.—Two deaths,—one of an infant under 1, *verdict* “wilful murder” ; and one of a female between 25 and 35, death being the consequence of criminal abortion.

Order 4. SUICIDE.—Seven deaths (3 in Brompton), viz. : by *Poison*, 4 ; *Drowning*, 1 ; by *Wounds*, 1 ; and *Otherwise*, 1.

Nine deaths, 7 in the Town sub-district, and 5 of them under five years of age, are classified to “causes not specified or ill-defined.”

Among deaths classified to unusual causes may be mentioned one of a child aged 16 months from glanders. This case, one of two in the same family, was specially referred to in my last annual report in connection with an outbreak of glanders at Colville Mews.

An uncertificated death of a woman aged 60, from “hemorrhage from a vein,” was doubtless due to the bursting of a varicose vein in the leg, and may be fairly described as a preventible death ; few things in surgery being more easy than to staunch bleeding from a vein by pressure. The majority, even of educated persons appear to be not aware of this fact, the knowledge of which would often be the means of saving life. It may be hoped that information of an elementary kind, bearing on the laws of life and health, will some day form an essential part of every school *curriculum*.

A death was registered of a child from “Circumcision, 19 days, Erysipelas, Mortification.” A death, unsatisfactorily certified as “Retarded Eruptive Fever,” is classified to “Simple Continued Fever” in the Registrar-General’s tables. The case was probably one of Scarlatina.

A case of “Meningitis, 21 days, Cynanche, 7 days,” is classified to Diphtheria by the Registrar-General.

The deaths of an eminent sergeant-at-law and his wife were by rumour attributed to blood-poisoning from sewer gas. The sergeant’s death was caused by “inflammation of the lungs, obstruction of the bowels, and perforation,” the lady’s by “Septicemia, double pneumonia, (4 days), Cardiac failure, 20 hours.” The medical attendant stated that he was unable to fix a definite date for the beginning of the septicemia (which is a form of blood-poisoning), and that although

"there was nothing to prove that the cases were caused by bad drainage, there was much in their character to suggest the suspicion that their course was modified by sewer gas." The house was carefully inspected, but without revealing any adequate ground for the above-mentioned suspicion.

DEATHS AT PUBLIC INSTITUTIONS.

The "large public institutions" are the Parish Infirmary and Workhouse in the Town sub-district and the Hospital for Consumption and Diseases of the Chest at Brompton. There are numerous minor public or quasi-public institutions, such as the Barracks, "homes," schools, nurseries, &c., but, with one exception, they do not furnish occasion for notice here. The exception is St. Joseph's House, Portobello Road, Notting Hill—a Roman Catholic home for some 250 aged poor persons of both sexes, most of whom, wherever they may have come from, have resided in the home long enough to acquire the status of parishioners. The Marylebone Infirmary for the sick poor chargeable to the rates of that parish, is approaching completion, and may be expected to figure among our large public institutions next year. The deaths registered at the Workhouse, the Brompton Hospital, and the hospitals of the Metropolitan Asylum District Board, were 424, or 13·3 per cent. on total deaths, the percentage proportion of deaths in public institutions in the Metropolis generally being 18·5.

THE PARISH INFIRMARY AND WORKHOUSE.—I am indebted to Dr. Whitmore, Medical Superintendent of the Infirmary and Medical Officer of the Workhouse, for the statistics of the mortality at these institutions. The deaths were 287, males 149 and females 138, (as against 284 in 1878), or 10 per cent. of all deaths registered in the parish. The numbers in the four quarters respectively were 100 : 67 : 44 and 76 :—176 in the cold and 111 in the warm half of the year. The ages at death were as follows :—Under 1 year, 31 ; between 1 and 60, 125 ; 60 and upwards, 131. Between 60 and 70 the deaths were 51 ; between 70 and 80, 62 ; between 80 and 90, 14. There were 4 deaths, two of males and two of females, from "old age," at 90, 96, 97, and 98 years respectively. Three inquests were held, viz., on a female, aged 30, verdict, "*Fall on pavement*" ; on a female, aged 56, verdict, "*Phthisis*" ; and on a female, aged 68, verdict, "*Drowned*"

herself while of unsound mind." Two sudden deaths—occurring shortly after the admission of the patients—were brought under the Coroner's notice, but an enquiry was deemed unnecessary, and the cause of death being unknown, the deaths were registered as "not certified."

The causes of death may be grouped as follows :—

				Under one year.	Between one year and sixty.	Sixty and upwards.	Total.
Nervous System, Diseases of	...			4	15	29	48
Circulation, Organs of	„	...		0	5	3	8
Respiration, „	„	...		2	27	47	76
Abdominal Viscera	„	...		0	1	6	7
Measles	...	...	...	0	3	0	3
Whooping Cough	...	...	...	0	2	0	2
Erysipelas	...	...	...	0	2	2	4
Diarrhoea	...	...	...	1	1	4	6
Pyæmia	...	...	...	0	1	0	1
Syphilis	...	...	...	0	1	0	1
Want of Breast Milk	...	...	...	4	0	0	4
Delirium Tremens	...	...	...	0	3	0	3
Gout...	...	...	...	0	1	1	2
Cancer	...	...	...	0	3	3	6
Stomatitis	...	...	...	1	0	0	1
Mortification	...	...	...	0	0	4	4
Scrofula	...	...	...	0	1	0	1
Phthisis	...	...	...	0	48	8	56
Ulcer	...	..	...	0	1	0	1
Disease of Joints	...	...	...	0	1	0	1
Premature Birth	...	...	...	6	0	0	6
Atrophy and Debility	...	...	...	12	2	0	14
Anæmia	...	...	...	0	0	1	1
Old Age	...	...	...	0	0	21	21
Various Diseases	...	...	...	0	6	0	6
Fall on pavement	...	...	...	0	1	0	1
Drowning	...	...	...	0	0	1	1
Unknown	...	...	...	1	0	1	2
				31	125	131	287

THE HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—The deaths at this institution were 110—males 57, and females 53: 27, 31, 21, and 31 in the four quarters respectively; or 58 in the winter and 52 in the summer half of the year. The ages at death were :—under 20 years (youngest 13), 13; between 20 and 40, 79; between 40 and 60 (oldest 51), 18. Four of the deaths were of parishioners. Forty-nine of the deceased had previously resided in the Metropolis, 24 in the suburbs or Metropolitan counties, and 30 in more distant parts of the country. The causes of death as registered, were *Phthisis* (consumption or decline) alone, in 91 cases, and with other visceral diseases in 4 cases; diseases of the heart, &c., in 6 cases; diseases of the lungs in 2 cases; and diseases of the viscera in 4 cases.

ST. JOSEPH'S HOUSE.—The deaths at this institution were 43, viz., males 20, and females 23: two only under 60 years of age. The fatal diseases were such as are common to old age, viz., of the heart, 12; of the lungs, 9; of other viscera, 6; of the nervous system, including paralysis, 8; and various, 8.

DEATHS NOT CERTIFIED.

Fourteen deaths were returned as “not certified,” i.e., the deceased had been attended in their last illness by unregistered practitioners. The number is smaller than in previous years, owing to the fact of two such practitioners having obtained a qualification and being registered under The Medical Act, 1858. Only 5 of the deceased had been attended by persons professing to have medical knowledge, the remaining nine, infants a few hours or days old, having been attended by midwives. The causes of death as entered in the weekly returns were—lung disease, 4; premature birth, 4; inanition, 4; convulsions, 2.

In 9 other cases there had been “no medical attendant,” the causes of death as returned being, abscesses, 1; lung disease, 3; scrofula, 1; natural decay, 1; premature birth, 1; hemorrhage from vein, 1; and “unknown,” 1.

INQUESTS.

One-hundred-and-fifty-nine inquests were held during the year, 132 in the Town Sub-district and 27 in Brompton: the cause of death having been ascertained in 117 instances by *post mortem* examination.

Seventy-nine of the deceased were children under five, 49 being less than a year old; 18 were upwards of 60; and 60 between 5 and 60 years old. Of the children ten were illegitimate, and seven of these met their death by "violence" of some sort. In three cases death was directly due to the abuse of alcohol, the verdicts severally being "*excessive [drinking]*" (a spinster), "*fall whilst intoxicated*" (wife of a carpenter), and "*suffocated whilst intoxicated*" (an artizan).

The sex of the deceased was, male, 92; female, 67. Many of the deaths were described as "sudden." In numerous instances the deceased had been "found dead," or "found dead in bed." In many cases the death had been brought about by violence.

The verdicts may be classified as follows :—

Diseases of the brain and nervous system (apoplexy, paralysis, convulsions, &c.							...	...	...	33	
Disease of the heart, &c.							...	...	...	...	33
Diseases of the lungs, &c.							...	...	...	...	22
Diseases of the viscera							...	...	...	...	4
Hernia ...							...	...	...	...	1
Scarlet fever ...							..	...	...	...	3
Croup ...							...	...	...	...	1
Phthisis							...	...	...	...	1
Scrofula							...	...	...	...	2
Want of proper food							...	...	...	...	1
Various...							...	...	...	...	5
Violence	{	Accident		...	44	{	...	...	...	53	
		Suicide		...	7						
		Wilful Murder		...	2						
<hr/>											
159											

VIOLENT DEATHS.

The violent deaths were caused by :—

Falls ...	...	...	...	...	...	17
"Blow on head"	...	...	...	...	...	1
Horse-kick	...	...	...	...	...	2
Gunshot	...	...	...	...	...	1
Drowning	...	...	...	...	...	3

VOILENT DEATHS.—*Continued.*

Burn	1
Scalds	2
Poison	6
Suffocation	16
Neglect at birth	2
"Wilful murder"	2

53

Suicide was effected by poison in five instances, and by gunshot and drowning in one each. One "wilful murder" was by "criminal abortion," and one by exposure of a newly-born infant.

Among the cases described as "sudden," "found dead," &c., there were, as usual, many of persons who had died from ordinary, easily recognizable and curable visceral diseases; and it is impossible to resist the conviction that there had been gross and culpable neglect on somebody's part in the failure to obtain medical assistance for the deceased—seeing that the illnesses must have extended over many days, and been attended with obvious symptoms of a more or less serious and painful nature; for there would have been no occasion for inquests had medical certificates of the cause of death been forthcoming. The mere return of the cause of death by a jury seems to me scarcely to meet the requirements of justice, considering that the death of any person—but particularly of one very young or very aged—from a disease like pneumonia or bronchitis, when there has been no medical treatment, raises a presumption of neglect which would justify a verdict of "manslaughter," at least as reasonably as in the case of the "peculiar people," who, whilst treating their sick with care in other respects, refuse, on mistaken conscientious grounds, to employ medical assistance.

METEOROLOGY.

The mean temperature of the air at Greenwich in 1879 was 46°.2 Fahr., or 3°.1 below the average of forty years, 1840—79. The averages of the four quarters respectively were 37°.2, 49°.3, 58°.2, and 40°.7. The highest reading by day (80°.6) was taken in the week ending August 2nd, and the lowest reading by night (13°.7) in the week ending December 13. The hottest week in the year was

that which ended August 2nd (64.0), and the coldest that which ended Dec. 6th (27.1). The dryness of the atmosphere, *i.e.* the difference between the dew point temperature and air temperature, was 4.0, an amount considerably below the average of 39 years (5.6). The rainfall was 31.3 inches, the average of 40 years being 24.5 inches. The means of the readings of the barometer were 29.770 inches; the means of April, 29.420, and of December, 30.139, being respectively the lowest and the highest. The influence of the meteorological conditions—low temperature, excessive rainfall, saturation of air with moisture, &c.—on the vital statistics of the year was well marked, as has already been pointed out in the observations on the mortality from chest diseases, diarrhoea, &c.

VACCINATION.

Table X (Appendix), is a return respecting the vaccination of children whose births were registered during the year 1879, and for it I am indebted to Mr. Shattock the Vaccination Officer, whose energetic discharge of the duties of his appointment, it has always afforded me great pleasure to recognize. The return shows a loss of only four per cent. of the cases, which is better than usual, even for Kensington, the loss in 1878 having been five per cent. It must be remembered, moreover, that the present return is, after all, only preliminary, the Local Government Board allowing vaccination officers a period of twelve months (expiring in February) for the completion of a final return, in order that the statement, in respect of all children born in any given year, may be rendered as complete as practicable. I believe I am correct in stating that the "loss" in the column indicating "removal of children to places out of the parish unknown, or which cannot be reached; and cases not having been found" averages between 8 and 9 per cent. in the Metropolis generally, so that the Kensington return is fully 4 per cent. better than the average. In a communication lately received, Mr. Shattock states that during the year he prosecuted, under the Vaccination Acts, in nine instances resulting in a compliance with the law in each case. Referring to the "Medical Act," he adds that he also prosecuted under the Statute, an unregistered practitioner who had certified that a child had been three times unsuccessfully vaccinated

by him, and was insusceptible of vaccination. This person was fined £10 and costs. Mr. Shattock insisted on the child being again vaccinated by a qualified practitioner, and the operation proved "thoroughly successful."

THE GOVERNMENT VACCINATION BILL.—In connexion with the subject of vaccination, it is necessary to refer to a retrograde step proposed by the Government, and which, if carried into effect, may lead to small-pox becoming a common disease in the future, as it was in the now-distant past. It is a concession to the anti-vaccinationists, in the form of a Bill ("Vaccination Acts Amendment Act,") which proposes to enact that "no parent of a child shall be liable to be convicted for neglecting to take, or to cause to be taken such child to be vaccinated, or for disobedience to any order directing such child to be vaccinated, if either (a) he has been previously adjudged to pay the full penalty of twenty shillings for any of such offences with respect of such child; or (b) he has been previously twice adjudged to pay any penalty for any of such offences in respect of such child." Should this Bill become law, any parent who may object to vaccination will be enabled, at the cost of a few shillings, to escape the performance of what is by most reasonable persons regarded as a duty equally owing to society at large and to his own offspring. Under the existing law, penalties are multiple, *i.e.*, a parent may be fined again and again (*inter alia*) for neglecting to have his child vaccinated, and for disobeying the order of a magistrate requiring him to have his child vaccinated: and although the multiplication of penalties, rendered necessary by contumacy, may seem to savor of "persecution," experience proves that it is really the only means of securing the vaccination of the children of contumacious parents, and of those who would deny their children the protection of vaccination, were it not for fear of the consequences of setting the law at defiance. But should the Government Bill pass, anti-vaccinationists would soon have their way, for were the operation to cease to be *compulsory*, in the sense in which it is now compulsory, it would practically become *optional*, and thus, year by year, an ever-increasing number of persons would exist in our midst, who, being themselves unprotected by vaccination, and, therefore, intensely liable to small-pox, would become the means in any future epidemic of spreading the disease indefinitely. The

disease itself, moreover, instead of appearing from time to time in epidemic form, as it does now, would be always with us as in the pre-vaccination days.

The Bill is being vigorously opposed in many influential quarters, and your Vestry were among the first, if not first, in petitioning the House in deprecation of any relaxation of the law in the direction indicated in the Government measure.*

As bearing on the question of the protective power of vaccination, and re-vaccination, reference may be made to a circular letter, issued in October by the Managers of the Metropolitan Asylum District, in which they summed up the experience, acquired in the hospitals, by the Medical Superintendents of the several small-pox hospitals under the control of the Board. The Managers state that "the observations of these gentlemen confirm former opinions on the subject, and establish beyond doubt the mitigating influence in small-pox cases of successful primary vaccination, and the preventive powers of efficient re-vaccination." It is needless to quote at length the valuable statistics furnished: but it may suffice to state that the mortality was 8.8 per cent. of the vaccinated, and no less than 44.4 per cent. of the unvaccinated, the observations extending to a total of 15,171 cases, treated in the hospitals in the epidemic which began in 1876. It is added, that "no case of small-pox has come within the cognizance of either of the Medical Superintendents, of any person who had been efficiently vaccinated, and successfully re-vaccinated. Moreover, the nurses and servants employed from time to time at the various hospitals during the epidemic, have enjoyed almost absolute immunity from infection: and the few—some half-dozen amongst nearly one thousand—who contracted the disease, whilst discharging their duties, had from some cause or other escaped re-vaccination before entering the wards." The conclusion is, that if vaccination and re-vaccination were successfully accomplished at the proper times, small-pox "instead of being, as it is at present, a common and extremely fatal disease, would be a comparatively rare one, and so little fatal that few, if any deaths would result from it."

* The Bill was subsequently withdrawn.

GLANDERS.

In my last Annual Report I referred to the circumstances under which two deaths from glanders had occurred at Colville Mews in May, 1879, and the consequences to which they gave rise, viz. :—an increased activity on the part of the Metropolitan Board of Works, as “Local Authority” under the Contagious Diseases (Animals) Act, which led to the disclosure of many cases of glanders and farcy in the Metropolis, and an increased severity on the part of magistrates in dealing with offences under the Act.

The subject of glanders has been before your Vestry, more or less, ever since the occurrence referred to, and has recently acquired an additional interest from the death of several valuable horses in your Vestry's stud. In March last, a statement having been made to the effect that within six months (viz., to the end of February), 116 horses had been slaughtered in Kensington on account of glanders and farcy, your Vestry requested me to report as to the actual number of deaths, and as to the “bearings of the subject on the public health.” After full enquiry, I was enabled to report that the occurrence of glanders in horses appeared to have had no “bearing on the public health” during the period in question, for no death in man had been reported from the disease or from any cause of a suspicious character, which, on any ground of probability, could be traced to the poison of glanders; and that the statement of 116 horses having been killed, confirmed as it apparently was by the “Vice-President of the Council,” in the House of Commons, was an accidental exaggeration, for the actual number was only 64 (glanders 44, and farcy 20): certain cases belonging to another parish having been erroneously included in the Kensington list.

The recorded deaths from glanders in 1879 were 57, and from farcy 24—total 81; of which only 5 took place in the first quarter: but there is reason for believing that concealed cases had occurred at Colville Mews between January and March, it having been ascertained that in one set of stables ten horses had died or were slaughtered prior to the death of the child, which led to the discovery of the outbreak. In the Metropolis, generally, the horses destroyed on

account of glanders numbered 602, and from farcy 395—total 997. The totals for 1877 and 1878 were 486 and 571 respectively.

In the report above referred to, I submitted tables showing the number of horses slaughtered in each month, from January, 1879, to March, 1880; the number of infected places, and the localities where the disease had existed. Of 136 horses slaughtered in 15 months, it appeared that 106 were the property of omnibus and cab proprietors; 12 of tradesmen; 12 of "general dealers, &c.," and 6 of your Vestry. The separate stables infected were 60, the majority of them being comprised within two limited areas, of which Talbot Mews and Colville Mews, respectively, may be taken as the centres. In the Colville Mews area there had been some 60 cases within a space of a quarter of a mile square. No case had been reported in any gentleman's stable or in any livery yard, and the horses affected, speaking generally, were of a decidedly low class.

Glanders is looked upon as a contagious disease only, but the occurrence of case after case in the same stable is quite as suggestive of aerial infection as of the conveyance of *virus* from horse to horse by contact, or through the medium of polluted stable fittings, sponges, buckets, &c.

It is worthy of remark that in more than one instance glanders existed in two or more separate localities on premises in the occupation of the same person, pointing to the probability that the contagium had been conveyed by people in the employ of the horse proprietor. The way in which cases of glanders and farcy have been mixed up in some of the stables is suggestive of an intimacy of relation between the diseases, if, indeed, they be not varieties of one disease. The spread of glanders points, I think, to the insufficiency of the processes usually adopted for cleansing and disinfecting premises, and which obviously were insufficient to destroy the specific virus. There was one case and only one, in a large stud of horses belonging to the London General Omnibus Company, the presumption being that, by the measures adopted for purifying the premises, the disease was stamped out without loss of time.

To prevent misconception, it should be well understood that the date of death of any given horse, does not necessarily furnish a clue to the date of attack. There are, doubtless, at any time many horses in the

Metropolis affected with glanders of which the "Local Authority" knows nothing. Such horses are usually employed in night cabs and omnibuses, and the only way to detect them would be for the Inspectors of the Board, with the assistance of the Police, to make raids at uncertain intervals on cab and 'bus stands, and to examine every horse on the rank, and stables from which diseased horses had come. The dread of such inspections, and of the consequences of detection, would, I doubt not, lead to frequent disclosure of diseased horses. As showing the inveterate tendency to concealment, I may refer again to the outbreak at Colville Mews, where, in the early part of last year, some ten horses had been killed or had died before the disease was brought to light, and then only owing to the spread of it to human beings. Not long after, moreover, we were instrumental in bringing to knowledge a group of cases that had occurred at another mews, and there was a race between the Police officer and the proprietor of the stables which should be the first in arriving at the Board Inspector's surgery to report the occurrence of the *last* case. The horse owner was first; but he was successfully prosecuted by the Local Authority on the ground that he did not *immediately* report the case as required by the Order of the Privy Council.

It would be interesting, did time permit, to discuss probable modes of spread of glanders, other than those obvious ones to which I have alluded, but I shall only refer at this time to the probability of infection being conveyed by virus deposited by diseased horses in public drinking troughs. So strongly did I feel on this point that I ventured some time back to recommend, among other precautions, that your Vestry's horses should be separately watered each from its own bucket, and not suffered to use a common drinking trough even in the stable yard. Such precaution is the more necessary because in the earlier stages, and in the chronic form of the disease, it is highly probable that the specific ulceration of the nostrils which characterises the malady may be slight, or so high up to be invisible to the unassisted sight, though it may be worthy of consideration whether it might not be practicable to make an examination of any suspicious case with the aid of a nasal speculum?

I have not any means of ascertaining whether the deaths from glanders in Kensington have been more numerous, in proportion to the

number of horses kept, than in other parts of the Metropolis. The Local Authority, moreover, is "unable to state whether the disease has been more prevalent in Kensington than in other parishes," having "no means of knowing the number of horses kept, the attention of the Board's officers being only called to those places upon which disease appears." We read, however, in the Annual Report of the Veterinary Department of the Privy Council for 1879 (page 32), that "more cases of glanders and farcy have been returned in the Metropolis than in any previous year." It is said, however, that "there is no evidence to show that the disease is more prevalent than in former years . . . the increased number of cases returned being due to the activity of the executive in carrying out the Act of 1878, and Orders of Council relating to these diseases."

There can be little doubt, I think, that the prosecutions which followed on the discovery of the cases at Colville Mews, together with the expressed resolve of more than one Police Magistrate to inflict the full penalty of twenty pounds for offences against the Act, operated as a stimulus in promoting the *disclosure* of diseased horses. It is very desirable, nevertheless, that all the facts bearing on the subject should be published for general information by the Local Authority, or by the Privy Council.

SANITARY WORK.

Tables VI and VIa (Appendix) summarise the chief items of work done by the Sanitary Inspectors during the year. A not inconsiderable part of their work, however, scarcely admits of tabulation, many sanitary improvements being carried out at their instance, and under their supervision, without recourse to forms, service of notices, &c., which take up time, and are, indeed, unnecessary when an owner or occupier is ready and willing to abate nuisances or effect desired improvements. The statement as to the "number of houses inspected" applies to primary inspections only. When a nuisance is found to exist and it is not at once abated, repeated inspections may be required—as many as six, indeed, when it becomes requisite to take out a summons. In cases of infectious disease treated at home, under circumstances which seem likely to endanger the spread of disease, through the omission of proper precautions, numerous visits are usually paid to the

infected house, for which it has not been customary, until lately, to take credit. In like manner the total of "sanitary orders" issued comprises none of the cases in which work has been done by the owner or occupier at the request of the Inspector.

During the last two years the abatement of nuisances has been much accelerated by the plan of serving "preliminary notices" upon the parties liable, immediately on discovery. These notices appear to be well nigh as effectual, in the majority of instances, as the more formal notice which, previously, it had been the rule to serve after report of the nuisance to the Works, Sanitary, and General Purposes Committee and confirmation by your Vestry of their recommendation. When the notice is not attended to recourse must be had to a summons before a magistrate, and I hold it to be the duty of an Inspector in such cases to proceed with the least possible delay.

In my last Annual Report I had to observe that "the difficulties which beset legal proceedings, *i.e.* at the Police Court, tend to cool the ardour of Sanitary Inspectors in having recourse to magisterial aid." I am happy now to be able to bear witness to a great improvement in this respect, for acting upon a recommendation I made in 1878, your Vestry have authorised proceedings before the magistrates sitting at the Vestry Hall—an arrangement by which much time has been saved, besides securing in nearly every instance the object in view. We have cause to be grateful to the magistrates for their willingness to take our cases, adding considerably as they do to the time consumed in the administration of justice; and for the good work they have done by their decisions in helping forward sanitary improvement.

Among "offences" against various Sanitary Acts, for which proceedings were instituted, the following may be mentioned:—

For keeping a cow on unlicensed premises: penalty inflicted 1/- and 1/- costs.

Under "Dairies Order;" for allowing a wife to take part in carrying on the business of a dairy, while she was nursing cases of small-pox: penalty 20/-, and 2/- costs.

For exposing a child in public, while suffering from an infectious disease: penalty inflicted 5/-, and 1/- costs.

For exposing himself in public, under similar circumstances, a

man was required to enter into his own recognizances to come up for judgment when called upon.

For allowing offensive accumulation of manure, contrary to your Vestry's regulations for the periodical removal of the same, a penalty of 1/-, with 1/- costs, was inflicted in several cases: in others 1/- costs, and no penalty; and in one case 20/-, and 1/- costs. In two cases, the defendants not having appeared to answer the complaint, the Justices imposed penalties of £2 and £5 respectively.

For offences against the Slaughter Houses Bye-Laws:—in one case, the defendant was cautioned to be more careful, and in four cases the penalty of £3 was inflicted.

For allowing gipsies to encamp, there being no accommodation on the ground, (w.c., water supply, dustbin, &c.,) a conviction was obtained, which had the desired effect of getting rid of the gipsies.

In upwards of thirty cases in which sanitary works directed by your Vestry had not been carried out, orders were made, no penalty being inflicted, but payment of 1/- costs being required.

In a few cases proceedings were instituted against persons for omitting to give your Vestry notice before beginning to make drains, or for neglecting to construct drains when ordered. In one of the first-named class of cases, penalties to the amount of £11 were inflicted.

Proceedings were taken successfully in more than one instance, to put an end to ballast burning complained of by inhabitants in the locality of the nuisance.

In several cases the Justices' "Orders" having been disobeyed, penalties, mostly nominal, were inflicted.

LICENSED SLAUGHTER-HOUSES.

The licensed slaughter-houses are 29 in number, viz., 20 north and 9 south of Uxbridge Road (*vide* Table XI, Appendix, for localities and names of licensees).

The several premises were inspected by your Vestry's Works, Sanitary, and General Purposes Committee prior to the day for the renewal of licenses in October, no opposition being raised to the

renewal in any case. The Committee nevertheless found occasion to complain of neglect by several of the licensees in respect of certain of the bye-laws (Nos. 5, 10, and 16) framed with the object of preventing nuisances in the conduct of the business; and proceedings having been instituted, several of them were mulct in penalties of three pounds. The Committee took note of the fact that at some of the slaughter-houses no provision of a permanent character had been made for watering the animals whilst in the lairs: but they observed with satisfaction that at most of the premises the "Local Authority" (Metropolitan Board of Works) had succeeded in getting the licensees to carry out a recommendation by your Vestry for the provision of a syphon-trap with fixed grating, in lieu of the bell-trap with removable cover.

The most satisfactory feature in connexion with the annual licensing was the fact, then made known, that the Local Authority have now endorsed in principle the views expressed, and the action taken, by your Vestry in 1874, on the subject of the approaches to slaughter-houses; and they opposed the renewal of the license of a slaughter-house in Chelsea on the ground that the only means of access to the premises is by a flight of stairs in a dwelling house. The Board occupied a difficult, not to say a false position in thus opposing the license after having, without protest, tolerated the use of the premises under the same conditions for five consecutive years; and so the magistrates appeared to think, as they declined to give effect to the opposition. It was incidentally mentioned that a statement of the Board's present views on this subject had been forwarded to the magistrates in the several Divisions of the Metropolis, and that in all the other divisions the magistrates had refused to renew the license of premises objected to. Even now, however, the Board does not go quite far enough, as they have, as yet, decided to oppose the renewal of licenses only when the doorway is too narrow for the convenient passage of oxen. In the case above alluded to, moreover, having failed in their objection to the renewal of the license, they made an unsuccessful appeal to the Bench to restrict the slaughtering to "small things," i.e. sheep, lambs, calves, and pigs. It is to be hoped that on another occasion the Board's opposition will be more successful. But in order to succeed they should oppose on principle in every case where the entrance to the premises is unsuitable; should they not see fit to obtain the sanction of

the Local Government Board to a bye-law forbidding the passage of cattle through a dwelling house or shop.

Your Vestry, it may be remembered, took decided action in this matter in 1874, on the passing of the Act, and objected on principle to the renewal of the license in every case where there was not an approach to the premises altogether independent of the butcher's house or shop; and, although the magistrates did not at that time give complete effect to your Vestry's views, I am glad to be able to state that only one slaughter-house with an improper entrance through a shop now exists in Kensington, and this one appears to be but little used.

It may be mentioned that there are now some 928 private slaughter-houses in the Metropolis, whereas the number at the date of the passing of the Act was 1429: and that only 27 new slaughter-houses have been licensed since 1874. In Kensington there were 53 slaughter-houses in 1873. Now there are but 29, and no new slaughter-house has been licensed since the passing of the Act.

LICENSED COWSHEDS.

The licensed cowsheds are 23 in number, viz., 15 in the district north, and 8 in the district south of Uxbridge Road (*vide* Table XII, Appendix, for localities and names of licensees).

The licensing of the cowsheds for the year ending October, 1880, had special features of interest, owing to the new conditions brought into operation by the passing of the "Contagious Diseases (Animals) Act, 1878."

In several of my annual reports I have stated fully the reasons calling for more careful supervision of cowsheds and dairies: and in my report for 1878, I specified the nature and extent of the powers conferred on the Metropolitan Board of Works as the "Local Authority" for all London (the City excepted) under the Act, in respect of the construction and the management of cowsheds.

The Act was brought into operation through the issue of the "Dairies, Cowsheds, and Milk Shops Order, 1879," and regulations framed by the Local Authority thereunder. In anticipation of the annual renewal of licenses, your Vestry's Works, Sanitary and General Purposes Committee carefully inspected the several licensed cow-

sheds in July. They noticed improvements in many of the sheds, consequent on the carrying out of the requirements of your Vestry, made known in the previous year; and in their report they expressed a hope that through the operation of the regulations, further improvements would be effected. The Board had then recently appointed inspectors of cowsheds, and the officer for the district being engaged in making a preliminary inspection, the Committee out of courtesy to the Board, preferred to await the result of such inspection before taking any steps to carry out the provisions of the regulations in respect of structural alterations.

In my tenth report, for 1879 (Oct. 15, page 68), I had to state that in several of the sheds the requirements of the Board had not been attended to; nothing in fact had been done to bring the premises into conformity with the regulations.

In these circumstances the day for the renewal of licenses came round, with what results may be best explained in the words of the committee reporting their proceedings:—

“An application,” they stated, “was made by the representative of the “Local Authority” (Metropolitan Board of Works) for an adjournment over a period of two months, of all the cases in the Division (which includes Chelsea, Hammersmith, and Fulham, as well as Kensington) to enable the licensees to comply with the requirements of the Local Authority, as set out in the “regulations” framed under “The Dairies, Cowsheds, and Milkshops Order of July, 1879,” prior to the renewal of the licenses. It was stated that an adjournment had been granted on the application of the Board in other Divisions.

“The Justices, however, taking the view that the business of a cow-keeper could not be lawfully carried on without a license, and that the penalty for breach of the regulations was heavy enough to ensure due compliance with them by the cowkeepers, declined to accede to the application.

“A question having arisen as to the relative position of the Board and the “Nuisance Authority” in respect of the cowsheds, under the regulations, it was stated that the Local Authority occupy a similar position in respect of the licensing of cowsheds, to that occupied by the police in respect of the licensing of public-houses. The Board have no power to oppose the renewal of a license, their duty being to

see that the regulations are duly carried out, and to place whatever information they may possess at the service of the court, leaving the magistrates to act on such information at their discretion. It is the duty of the Vestry to oppose the license, if necessary on sanitary or other grounds. Your committee refer to this admission because it had been erroneously supposed that the "Nuisance Authority" had, in some sort, been superceded by the Board in respect of the sanitary supervision, &c., of cowsheds. The Vestry's powers, however, under section 93 of the Metropolis Local Management Act, 1862, are in no way modified by The Contagious Diseases (Animals) Act, 1878, nor by "The Dairies, &c., Order," nor by the Regulations. That there has been a misunderstanding on the part of some Nuisance Authorities as to the relative position of the Board and of the Vestries, &c., is obvious, for the Chelsea Vestry and the Fulham District Board of Works were practically unrepresented at the special sessions, those bodies confessedly having "left the whole matter in the hands of the Board" in the belief that the regulations were intended to effect a transference of jurisdiction. Even the Board, however, was not fully prepared to deal with the cases, owing probably to an expectation that the sessions would have been adjourned on their application.

"In their former report on the cowsheds (August 20th), your Committee noticed with satisfaction that "the Local Authority had fixed 800 cubic feet as the 'air space' necessary for each cow lawfully kept in a cowshed," thereby endorsing, not without considerable opposition from interested persons, the standard adopted by your Vestry, and approved generally by scientific and sanitary authorities.

"In conformity with this "provision" of the regulations, the Board intimated to the several licensees, in September, what number of cows might lawfully be kept in each shed.

"On the 7th October, however, a deputation of cowkeepers waited on the Special Purposes and Sanitary Committee of the Board to urge the reduction of the required air space to 600 feet per cow, on the ground that 800 feet was prohibitory and unnecessary: and the Committee having at once come to the conclusion that while 800 feet of air space for each animal should be the rule, 600 feet would be sufficient in those sheds which, from their situation and construction, have satisfactory means of ventilation, amended the "provision" in accordance with this view. This regrettable alteration, at later than

the eleventh hour, tended still further to complicate business at the licensing sessions.

"Your Committee, however, had instructed the officers to adhere, in all cases, to the 800 feet standard adopted by your Vestry. This was done and in every case, save one, the Justices gave effect to the recommendations of your Vestry, thus carrying out the decision they had announced in 1878, viz., that in 1879 and afterwards, they should insist on the 800 cubic feet rule for all cowsheds in this parish, and they marked the several licenses for the number of cows the respective sheds will accommodate on that measurement.

"In conformity with the instructions of your Vestry, the licenses of three sheds, in Blechynden Mews, and of the triple shed in Archer Mews, in the occupation severally of Messrs. Copperwheat, Salisbury, White, and Skingle, were opposed: your Vestry's opinion, moreover, that "the premises are unsatisfactory in construction, arrangement and position, and are unfit for use as cowsheds," having, as directed, been conveyed to the Local Authority. The Justices, however, having viewed the premises decided at the adjourned meeting, held on the 4th November, to renew the licenses: and taking into consideration that Messrs. Copperwheat, Salisbury, and White are weekly tenants only, they declined to make it a condition of the renewal that the sheds should be opened up to the roof by removing the ceilings of the sheds, which are stables in construction. The Justices, however, are fully alive to the reasonableness of your Vestry's views on the subject of ventilation, and have given effect to them in all the other cowsheds, Mr. Skingle's shed in Archer Mews excepted. This latter shed is an "infected place" at the present moment, and not for the first time, owing to an outbreak of pleuropneumonia. Mr. Skingle, it may be observed, is a dealer in cows, and when he is busy as many as ten cows per week pass through his shed, which consists of three very small stables. Two of these are his own property, and he inhabits the rooms over them; the rooms over the third shed being sub-let.

"Some inhabitants in the locality of Stratford Road opposed the renewal of the license of Mr. Clarke's shed in that road. The Chairman of the Bench, however, having viewed the premises, and Mr. Clarke having consented to remove a portion of the staging for fodder above the cows, the license was renewed.

"In their former report your Committee stated that the Local Authority had in the regulations "specified requirements in respect of cubic and floor space, size of stalls, paving, ventilation, &c., which will involve reduction in the number of cows kept in several sheds, and very considerable improvements, amounting almost to re-construction, especially of the flooring, in many more of the sheds." And, as already stated, the Board indicated to the licensees in the month of September the nature and extent of these alterations, improvements, &c. Meanwhile a return had been prepared by your Vestry's Sanitary Department, shewing in what respects the several sheds fall short of the requirements of the regulations, and a copy of this return was forwarded to the Board. Copies of the communications made by the Board to the several licensees, specifying their requirements, have been obtained, and will be preserved for future use. These requirements hold good in all respects excepting that of cubic space. The Board's representative, however, did not interfere in any way to alter the "800 feet rule" in respect of the cow sheds in this parish. The licensees, with one or two exceptions, had not found time to comply with the requirements of the Board, and your Committee recommended that a reasonable period should be allowed, wherever necessary, to enable them to carry out the alterations.

"It would be almost impossible, indeed, for the licensees to carry out fully the "Provisions" of the Regulations with a shed full of cows; for, to quote but one point, the flooring of nearly all the sheds will have to be reconstructed with new materials, scarcely any of them being at present "well paved with Stourbridge or other impervious material, set with cement, properly bedded on concrete, with a proper slope towards a gully-hole," which, "where practicable," is to be "outside the shed." This highly important improvement, however, should be carried out with the least possible delay.

"With reference to the sheds in Blechynden Mews, the licenses of which your Vestry opposed unsuccessfully, it may be mentioned that the Magistrates intimated to the licensees that they ought to endeavour to obtain leases of their respective premises. Your Committee felt strongly, and it was represented to the Bench, that it was almost unreasonable to expect the licensees to spend large sums of money to bring the premises into conformity with the provisions of the regulations under a weekly tenancy, and yet the regulations must be

complied with, the maximum penalty for default being £20. How very considerable are the alterations required may be gathered from the subjoined copy of the Board's letter to Mr. Copperwheat, the letters to the other licensees being couched in nearly identical terms.

"The shed requires additional light to be provided, by openings or windows in the sides or roof.

"The shed requires to be thoroughly ventilated by lantern louvred ventilators in the roof, or by louvred ventilators in the walls, or by openings in the sides or roof.

"The inner walls, doors, and woodwork of the shed require to be covered with hard, smooth, and impervious material to a height of at least 5 feet from the floor.

"The receptacle for brewers' grains and the separate receptacle for dung and litter should be both formed of, or lined with impervious material, and properly drained, and both should be constructed outside the shed in such a way that any effluvia arising therefrom cannot enter the shed.

"The shed requires to be repaved with impervious material, and drained in the manner prescribed by provision 7, page 5, of Regulations."

"It may be added that in these sheds there is no proper water supply, the water for the cows being obtained from a cistern in the sub-let rooms over the shed. The cistern supplies a w.c., which is badly situated and unsanitary. It also supplies the family living in the rooms. The waste pipe, moreover, is connected with the soil pipe of the closet. The regulations require a daily allowance of only 12 gallons of water per cow, but it is doubtful whether even this moderate allowance will be forthcoming, having regard to the wants of the sub-tenants. Under all the circumstances your Committee repeat the "hope" they expressed last year, viz. that "these licensees will be able to find more suitable premises for carrying on their business before the next licensing Sessions."

"Some improvements in certain of the sheds have since been carried out, but much remains to be done before the several licensees can be deemed exempt from penalties for non-compliance with the regulations of the Board."

BAKEHOUSES.

The special duties formerly devolving on your Vestry's officers under the provisions of the Bakehouse Act were transferred on the first day of the year 1879 to Government Inspectors appointed under the provisions of the Factory and Workshops Act, 1878. The Sanitary Inspectors, nevertheless, have continued to exercise a considerable amount of supervision over the bakehouses as a part of their routine work, and I have no doubt that a continuation of their periodical visitations is desirable in the interests of the public. There are about 128 bakehouses in the parish, 79 north and 49 south of Uxbridge Road.

DUSTING.

The collection of dust and ashes from upwards of 20,000 houses, covering an area of nearly 2000 acres, is no light task, and complaints of neglect were habitual when the work was carried out under the contract system. So frequent, indeed, did complaints at last become, that a desire to satisfy the legitimate requirements of the parishioners in respect of the removal of house refuse, had no little influence in determining your Vestry, in 1877, to abolish the contract system altogether, and undertake the duty with an ample staff and plant. The result has justified the decision, for the work has been done in an increasingly satisfactory manner : complaints are now rare, and even applications for removal of the dust are comparatively few in number. Oftentimes, moreover, when the dustmen, or your Vestry, get censured for alleged neglect, it turns out on enquiry that the domestic servants are to blame ; the hour of the dustman's call is "inconvenient" ; or "the steps have just been cleaned" ; such excuses, or some other excuse equally valid from a servant's point of view, being deemed sufficient for the perpetuation of a nuisance. And nuisance always arises from improper use of the receptacle by the deposit therein of animal and vegetable refuse ; of which it may be said that the former has an appreciable value and should be utilised, while the latter admits of being burned on the kitchen fire. A notification to this effect was left at every house in the parish in 1873, and subsequently repeated, not, I fear, with any conspicuously good results.

in the foundations of houses, and to neglect precautions against the rising of damp but it has been a too common practice to excavate the natural or virgin soil—*e.g.* brick-earth, sand, gravel, &c., and to fill up holes so made with refuse matters, such as slop, and the contents of dust-bins. Happily these practices can no longer be adopted with impunity, the Metropolitan Board of Works having recently framed, and the Home Secretary approved, bye-laws under the provisions of the Metropolis Management and Building Acts Amendment Act, 1878, to put a stop to them.

These bye-laws are too lengthy for literal quotation, but it may be briefly stated that they make provision for the entire removal from any site of a proposed house of any improper deposit whatever before the house can be erected ; and the holes caused by this excavation must be filled in with hard brick or dry rubbish. If the site of the house be not gravel, sand, or natural virgin soil, it must be covered with concrete. And if the site be not upon a natural bed of gravel, the foundation of the walls will have to be formed of concrete, and provision is made to ensure the concrete being composed of proper materials.

Provision is further made to ensure the use of good and sound stone, or bricks, and mortar or cement, in the construction of all walls, above and below ground, and for the construction of an efficient “damp course.” The top of every party wall and parapet wall, moreover, will have to be finished in waterproof and fire-resisting material properly secured.

These bye-laws, honestly carried out, cannot fail to be attended with good results, and it is only to be regretted that we have had to wait so long for legislation, the necessity of which has been recognized by Sanitarians and Nuisance Authorities alike.

PUBLIC BATHS AND WASH-HOUSES.

The negotiations for the purchase of a site at Ladbroke Grove, Notting Hill, for the erection of public baths and wash-houses, to which I alluded in my last annual report, fell through, mainly owing to an impression on the part of your Vestry, that the price demanded was excessive. Substantially, therefore, no progress was made in 1879 towards the realization of a scheme which, on theoretical grounds, commends itself to public approbation. I understand that the Com-

missioners are again conducting negotiations for a site in a position more suitable, because more central, than the site at Ladbroke Grove. This site, however, would prove even more costly than the other, a secondary consideration perhaps, in the long run, seeing how much the success of such an institution must depend on its position.

MORTUARY.

Two steps have recently been taken with a view to the provision of a public mortuary. Plans prepared by your Vestry's architect have been approved by the Churchwardens, and your Vestry have agreed on the terms of an agreement with the Churchwardens settling the conditions on which a building may be erected in the disused Parish Churchyard. No more suitable site could be desired, especially as only one mortuary is to be provided.

The next step will be to obtain a Faculty, and care will be necessary to guard against the introduction therein of unreasonable restrictions.

The matter moves slowly, but I hope that on the presentation of my next annual report, I may have the privilege of congratulating your Vestry on a successful issue to long continued efforts to supply this much needed sanitary want.

DISINFECTION.

During the year ended March 25th, 1880, a large number of infected articles of bedding, clothing, furniture, &c., were satisfactorily disinfected by Messrs. Wellan & Co., the contractors, mostly at the cost of your Vestry, the owners being too poor to bear the expense. The weight of the articles disinfected at public cost, was about 230 cwt.: their number, 4,530, and the cost of the process, £226. Large as this outlay may appear, it is probably less than would have been incurred had your Vestry been possessed of a disinfecting chamber, and the necessary staff for working it. An establishment and staff would have to be maintained in working order almost irrespective of the amount of infectious disease existing, whereas, under the present system, we pay only for work done.

Two-hundred-and-sixty-one rooms in 230 houses were disinfected with sulphurous acid by your Vestry's Officer. No charge was made in the great majority of instances, the occupiers being poor; but a small fee, to cover the cost of the process, is required of those who are in a position to pay.

WATER SUPPLY.

The water supply question, always an important one in relation with the public health, has acquired new and special interest of late, on account of proposals submitted to Parliament with a view to the purchase, on behalf of the ratepayers, of the eight undertakings by which the Metropolis is supplied with this necessary of life. I have always thought it desirable that your Vestry, as the body responsible in this great parish for carrying into effect the provisions of sanitary legislation, should receive, year by year, the best and latest available information on all points connected with the water question, and it has been my custom, therefore, to summarise the reports by Professor Frankland, prepared annually for the Registrar-General.

Of late years I have been enabled, in addition, to furnish a summary of interesting facts supplied in monthly reports by Colonel Bolton, the "Water Examiner" under the "Water Act, 1871." Dr. Frankland's report deals mainly with the quality of the water in its chemical and microscopical aspects, and in relation to its fitness for dietetic and domestic purposes; his opinion, as is well known, being adverse to riparian sources of supply: whereas Colonel Bolton's observations have reference *inter alia* to the condition of the water in bulk at the intakes, and to its physical qualities when delivered to consumers—in other words to the machinery of collection, subsidence, filtration, storage, and distribution.

London is mainly supplied from the rivers Thames and Lea, and the New River; but a considerable and increasing quantity of water is obtained from deep wells sunk in the chalk, not only by the Companies which obtain their entire supply from that source but also by some of the old Companies which thus supplement their intake of river water.

Dr. Frankland is as emphatic as ever in his commendation of this "deep well water," and takes it as the standard of purity in comparative observations on the waters generally. He describes it as being "delicious and wholesome" and uniformly excellent for dietetic purposes; maintaining that in the interests of temperance and public health it should as soon as possible be substituted for that portion of the Metropolitan supply which is drawn from polluted rivers. This "pure spring water," moreover, is "everywhere abundant in the Thames

basin: in dry seasons it constitutes the sole supply of the Thames and the Lea, and even after the most protracted drought, more than 350,000,000 gallons of it daily flow over the weir at Teddington, whilst a further very large volume of it joins the Thames lower down." At present the inhabitants of the Metropolis, generally, can only use it after it has been mixed with the excrements of a large population, and used for the washing of vast quantities of filthy rags in paper mills, and of linen in laundries. It would be a most valuable boon to London, he thinks, if ever so small a fraction of this prodigal supply could be collected, preserved from irremediable pollution, and distributed to those portions of the Metropolis which are not at present supplied with such water. The principal objection to it is its hardness, but this is an objection easily surmounted, by "Clarke's process"—the addition of slaked lime.

The "hardness" of water represents the weight of carbonate of lime, or its equivalent of other soap-destroying substances, found in 100,000 parts of water. The average hardness of the Thames water delivered in London last year was 20°8; of the Kent Company's water 28°4; and of the Colne Valley Company's water only 6°3. "All hard water must be softened before it can be used for washing linen: when it is softened in detail by the laundress, the operation costs, for an equal volume of water, at least eighty times as much (in soap and soda) as it costs when conducted on a large scale by a water company. The only water fit for "washing" delivered in London during the past year was that of the Colne Valley Company, which was softened before distribution by the process above-mentioned.

All waters, save artificially prepared distilled water, contain more or less "solid matter." The solid matter in river water is composed of a variety of substances, by far the largest proportion being entirely harmless when the water is used for dietetic purposes, but injurious when it is used for washing, because the water is thereby rendered hard; but a small proportion consists of organic substances, which are always objectionable, and at times are dangerous to health. The average proportion of total solid matter was much higher in 1879 than in 1878: the proportion in 1878, moreover, having been greater than in the previous year. The deep-well waters delivered by the Kent Company and by the Tottenham Board of Health contained the largest proportions of these matters, but the deep-well water

supplied by the Colne Valley Company contained less than one-half the quantity found in the river waters, and less than one-third of that found in the Kent and Tottenham waters: this comparative freedom from saline matters being attained, as already explained, by adding a small quantity of slaked lime to the water before it leaves the Company's works. The process is equally applicable to all waters supplied to the Metropolis.

The organic impurities derive their importance from being of animal origin. They are found in the river waters, which last year were often much polluted, so that, even after efficient filtration, Dr. Frankland deemed them "only in some measure fit for dietetic purposes during the months of April, November, and December." Only once before, since 1868, when these analyses were first made, had the Thames water been so polluted as in 1879; and, but for the perfection of the Companies' filtering plant, there is reason to believe that the pollution of Thames water, as delivered in London last year, would have been unprecedented. "The Thames was often in high flood, even in summer, and much filthy matter from sewers, cesspools, and cultivated fields was swept into the river during those periods of the year when they are usually kept back by the absence of heavy rain" The Lea water was somewhat superior; but in several months that sent out by the East London Company was "quite unfit" for dietetic use. These "noxious organic matters" are "in suspension," but in such a finely divided state as to render their removal by artificial sand filtration impossible. There is thus no protection against the distribution of them in polluted river water. Deep-well water, on the other hand, has undergone such a prolonged and exhaustive filtration through great thicknesses of porous rock, as to render it extremely unlikely, if not impossible, that any portion of the organic matter still remaining in it should be of this noxious character." Hence the deep-well waters were "uniformly pure and wholesome." Of the river water abstracted from the Thames, the best average supplies were furnished by the Lambeth and Chelsea Companies. Not many years ago the supply by the Chelsea Company was one of the worst, owing to the unsatisfactory position of their intake—at Seething Wells—and to deficiency of storage reservoirs. Stimulated by the complaints of their customers the Company removed their intake to West Molesey, undertaking extensive works at a large outlay, and now

they are enabled to supply water equal in quality to the West Middlesex Company, which for several years was at the head of the Companies drawing their supplies from the Thames.

The following table shows the amount of organic matter in the water of the Companies which supply Kensington, the Kent Company's water being taken as the standard of purity for comparison :—

Nane. of Company.	Maximum.	Minimum.	Average.
Kent	1·0	1·0	1·0
Chelsea	5·8	2·7	4·4
Grand Junction ...	7·8	2·7	5·0
West Middlesex ...	8·2	1·6	5·0

The organic elements consist chiefly of organic carbon, and the maximum pollution in the river waters greatly exceeded the standard, which is—0·1 part of organic carbon in 100,000 parts of potable water.

A marked and undeniable advantage of spring water is its evenness of temperature. The range of temperature of river waters is considerable, and last year in the water of the Thames, as delivered by five of the Companies, it amounted to 34°2 Fahr., viz., from 34°3 in January to 68°5 in August. The Lea water had a range of 34°7; the minimum being 32°9, or less than one degree above freezing point. Thus in “eminent danger of freezing” in winter, the water became in summer rapid and “repulsive to the palate.” The Colne Valley Company's deep well water showed a larger range of temperature than usual, viz., of 18°2, from 40°8 in January to 59°0 in July; the range in the Kent Company's water being only 8°4, viz., from 50°2 in December to 58°6 in August.

The transparency or otherwise of water is ascertained by its appearance in a tube two feet in length, and is expressed in arbitrary terms settled by common agreement, as in the following table, which shows the degree of efficiency of filtration of Thames water as supplied by the Companies in this parish, the examinations being made monthly :—

Company.	When clear and transparent.	Number of occasions.		When very turbid.
		When slightly turbid.	When turbid.	
West Middlesex	10	2	0	0
Grand Junction	9	3	0	0
Chelsea	9	2	1	0

When examined under the microscope the sediment deposited by turbid water on standing, is generally found to contain living and moving organisms. During the year these organisms were observed in the Chelsea and West Middlesex Companies' water twice, and in that of the Grand Junction Company once. The annexed table shews the results of such microscopic examinations during the past eleven years :—

Name of Company.	Number of occasions when living organisms were found.										
	1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879
Chelsea	3	2	2	3	2	5	4	4	1	0	2
Grand Junction	4	1	1	2	3	5	7	3	3	3	1
West Middlesex	0	0	0	0	0	0	0	0	0	1	2

The subjoined table shows the annual averages of each determination, and thus summarizes the average results of the analysis of the waters supplied by the local Companies during the year ; the Kent Company's water being taken as a standard for comparison. The numbers in this table relate to 100,000 parts of the waters :—

NAME OF COMPANY.	Temperature in Centigrade Degrees.	Total Solid Impurity.	Organic Carbon.	Organic Nitrogen.	Ammonia.	Nitrogen as Nitrates and Nitrites.	Total combined Nitrogen.	Chlorine.	Total Hardness.	Proportional amount of organic elements, that in the Kent Company's Water during the 9 years ending 1876 being taken as 1.
Chelsea	9·9	28·74	·224	·035	0	·194	·229	1·49	20·3	4·4
West Middlesex ...	10·0	29·70	·257	·038	0	·221	·259	1·47	20·7	5·0
Grand Junction ...	9·0	29·60	·253	·041	0	·211	·252	1·46	20·4	5·0
Kent... ..	11·9	45·09	·083	·014	0	·448	·461	2·54	28·4	1·6

Having thus summarised Dr. Frankland's views—reproducing in the consumers' interests, as in duty bound, the strictures on river water of what may be considered the official report, it is only fair to state that river water is not without its defenders and advocates. Among these, Dr. Meymott Tidy stands conspicuous, and he has recently summed up all, perhaps, that can be said in its favour in a paper read before the Chemical Society in May, and printed in the Society's transactions. He contends that dangerous organic matter is rapidly destroyed through the operation of natural laws when intro-

duced into running streams, and gives numerous experiments to prove his point. "Reviewing all the facts" he submits—

"1. That when sewage is discharged into running water, provided the primary dilution of the sewage with pure water is sufficient, after the run of a few miles, the precise distance of travel being dependent on several conditions, the removal of the whole of the organic impurity will be effected.

2. That whatever may be the actual causes of certain diseases, *i.e.*, whether germs or chemical poisons, the *materies morbi* which finds its way into the river at the sewage outfall, is destroyed together with the organic impurity after a certain flow."

I now turn to Colonel Bolton's reports, which from time to time supply a variety of interesting information in connection with the water supply : and first with reference to

Storage. The West Middlesex Company, he states, having large reservoir capacity for subsidence, avoid taking in water during floods, and they are now engaged in increasing the capacity of their subsiding and unfiltered water reservoirs at Barnes by nearly 35 million gallons, raising the total to 91 million gallons.

The Grand Junction Company have constructed much-needed additions of impounding and subsiding reservoirs near to the intakes at Hampton, and are constructing additional filters at these works. The recent addition to, and reconstruction of, the existing filters at the Kew Bridge works have greatly improved this Company's supply.

The Chelsea Company have completed their works, and now the intake of the subsiding reservoirs at Molesey is closed when the river is in bad condition.

Filtration. Great improvements have been effected of late years in respect of filtration ; and water is now taken in at Hampton and Molesey where it is usually in far better condition than lower down, as, for

example, at Seething Wells, where, till lately, the Chelsea Company had their intake. The rate of filtration of water should not exceed 540 gallons per square yard of filter-bed each 24 hours, and at this rate filtration should be effective. The materials of filters are mainly sand, shells, and gravel (increasing in coarseness towards the bottom) arranged in layers of different thicknesses.

Domestic pollution of water. The efforts of the Companies to supply well-filtered water are frequently neutralised by the neglect of householders, who allow their cisterns, &c., to fall into a filthy state. Water, moreover, often undergoes very dangerous pollution, of which the householder may be all unconscious, viz.:—through the “waste-pipe” being connected with the house-drain, and consequently with the sewer, to which it becomes a ventilator. Foul air is thus admitted within the covered receptacle and becoming absorbed by the water confers on it qualities of a deleterious character, and it may in favouring circumstances be the means of spreading disease. No more familiar example can be quoted than typhoid fever, endemics of which have been traced to the pollution of good water in the domestic cistern.

It is to be regretted that the Water Companies generally should have failed in their duty to the public by neglecting to exercise their power, under the “14th regulation,”* to cause the abolition of the waste-pipe universally. The Chelsea Company alone, in the western part of the Metropolis, have to any appreciable extent given effect to the regulation. The “Metropolitan Authority” (Board of Works) have not interfered for the protection of the public—having practically ignored the regulations from the first. Nor have the Local Government Board taken any steps in the matter, although for years the Water Examiner

* The 14th regulation reads as follows:—“No overflow or waste pipe other than a ‘warning-pipe’ shall be attached to any cistern supplied with water by the Company, and every such overflow or waste pipe existing at the time when these regulations come into operation shall be removed, or at the option of the consumer, shall be converted into an efficient ‘warning pipe’ within two calendar months next after the Company shall have given to the occupier of, or left at the premises in which such cistern is situate, a notice in writing requiring such alteration to be made.”

called their attention in his monthly reports to the importance of carrying out this particular regulation.

Dirty cisterns and waste-pipes are not the only causes of fouled water, the source of pollution being not unfrequently found in the domestic filter which many people treat as if it were self-cleansing or incapable of deterioration, whereas, it needs more or less frequent attention and change of material according to its character.

Constant Supply.—To obtain a constant supply of water was supposed to be a principal object of the Act of 1871, and Colonel Bolton states that considerable advance has been made in extending the system to the Metropolis, upwards of one-fourth of the total number of houses being now on constant service. The West Middlesex Company have 4,080 houses so supplied out of a total of 53,534 in their district; the Chelsea Company 941 out of 29,945; and the Grand Junction Company, *none*, out of a total of 40,285. In other words there are in the districts of these Companies in which we are locally interested, about 5,000 houses on constant service out of a total of nearly 124,000, or about 4 per cent. The East London Company, on the other hand, to quote but one, and the strongest case, by way of comparison, has nearly 99,000 houses on constant service out of 117,000. The western parts of the Metropolis are deplorably behind in this matter, and speaking generally, it may be said that constant service has been given only on estates built over since the passing of the Act, on which the intermittent service cannot be lawfully introduced.

The average daily supply during the year for all purposes, was equal to $32\frac{1}{2}$ gallons per head of estimated population, and $238\frac{1}{2}$ gallons per house. The West Middlesex, Grand Junction, and Chelsea Companies respectively supplied an average of $26\frac{1}{2}$, 33, and $36\frac{1}{2}$ gallons per head; and 199, 296 $\frac{1}{2}$, and 285 gallons per house. These quantities are greatly in excess of the public needs, and the fact of so much having been supplied, implies excessive waste of water, which would be almost entirely avoided by the adoption of the constant supply system.

GAS.

The subjoined tables, from the quarterly reports of the "Chief Gas Examiner," exhibit at a glance the principal results (averages) of the daily testings at Ladbroke Grove Station, of the gas manufactured at Kensal Green in this Parish, by the Gas-light and Coke Company. Sulphuretted hydrogen, an impurity which is not tolerated in any degree, was invariably absent; while ammonia, a valuable residual product of gas manufacture, was seldom found and only in fractional amounts far below the Parliamentary limit.

1. With respect to the illuminating power. The maximum, minimum, and average illuminating power in standard sperm candles was as follows:—(Statutory standard, "sixteen candles.")

	Maximum.	Minimum.	Average.
Quarter ended March 31st	18·5	15·6	16·9
Quarter ended June 30th	19·1	15·9	17·3
Quarter ended September 30th	19·5	18·3	17·3
Quarter ended December 31st	19·4	15·9	17·1
Averages, whole year	18·8	15·8	17·1

On one occasion, each, in the second and fourth quarters the gas was slightly below the requirements of the Act in illuminating power; and in the first quarter it was below the minimum on three occasions. The Company however appealed against the returns, alleging that the same gas had been found by their own gas examiner to be above the minimum, and that the Official Gas Examiner did not test the gas in conformity with the instructions of the Gas Referees, as in his experiments the candles were consumed at the rate of less than 114 grains per hour; and as this allegation was acknowledged to be correct, there was no evidence of insufficiency of illuminating power in the gas according to the provisions of the Act.

Table 2. As regards impurity. Grains of sulphur per 100 cubic feet of gas. (Permitted maximum, 20 grains in summer, 25 in winter).

	Maximum.	Minimum.	Average.
Quarter ended March 31st	34·8	14·4	21·5
Quarter ended June 30th	18·8	7·6	13·9
Quarter ended September 30th	17·2	8·5	10·9
Quarter ended December 31st	16·3	7·1	11·0
Averages, whole year	21·8	9·4	14·3

In the second, third and fourth quarters the sulphur impurity did not on any occasion exceed the Parliamentary limit, and the averages were well within it. In the first quarter, moreover, the *average* was below the maximum, but the maximum was exceeded on seventeen occasions in January, in gas manufactured at Kensal Green. The Company, however, lodged appeals against the returns, as the excess had been caused by the defective state of certain valves which gave rise to a serious leakage whereby much of the gas escaped proper purification. The Company was compelled to continue working with defective valves until the season arrived at which the smaller quantity of gas required could be supplied from other stations, when the defective valves were re-placed by valves of a better construction. The appeal was allowed, the Chief Gas Examiner certifying that the excess of sulphur had been due to an unavoidable cause.

No complaint was received from any private consumer in respect of the illuminating power of the gas in 1879, and I understand that Mr. Philip Monson, your Vestry's Superintendent of Street Lighting, is satisfied with the quality of gas as supplied to the public lamps. The burners now in use are calculated to consume gas at the rate of 4·5 cubic feet per hour, whereas the burners formerly in use, originally provided when Cannel gas was employed, consumed only three feet per hour; but notwithstanding the increased consumption of gas (= 50 per cent.) and the consequent improvement in the lighting of the public thoroughfares, the cost is not greater than under the old system of a fixed annual payment per lamp.

I cannot conclude this report without expressing my cordial thanks to various parochial officials for the assistance so freely afforded to my Department on all occasions.

It would be difficult to over-rate the value of the sympathetic co-operation of the Board of Guardians, and their officers, in all measures for preventing the spread of infectious diseases.

The sub-district Registrars (Messrs. Barnes and Hume), and the Vaccination Officer (Mr. Shattock), have always readily supplied what information I may have required.

The members of the Sanitary staff, never lacking in zeal, have

discharged their numerous and important duties with increased efficiency resulting from accumulated experience, and are entitled to my best thanks.

My grateful acknowledgements are also due to your Vestry, for continued manifestation of confidence which greatly strengthens me in carrying out the duties of my office, and in supervising the sanitary administration of the parish generally.

Lastly it affords me pleasure to give expression to the satisfaction with which I find my Department now at length, after long waiting for a "local habitation," so admirably housed in the New Town Hall.

I am, Gentlemen,

Your obedient servant,

T. ORME DUDFIELD, M.D.,

Medical Officer of Health.

OFFICES, TOWN HALL, KENSINGTON,

August, 1880.

APPENDIX.

NOTE.—The forms for Tables I—VI. were framed by the Society of Medical Officers of Health with the object of securing uniformity of Statistical Returns.

TABLE I.

Estimated population of Kensington at the middle of the year 1879 and in 10 previous years; number of inhabited houses; Births Deaths, and Marriages (gross numbers).

Year.	Estimated Population.*	Number of Inhabited Houses.	Registered Births.	Deaths †	Marriages.
1879.	156,250	20,210	4,790	2,992	1,428
1878	153,600	19,719	4,607	3,120	1,331
1877	151,000	19,330	4,648	2,624	1,411
1876	148,000	18,944	4,499	2,896	1,417
1875	143,500	18,444	4,478	2,786	1,346
1874	138,000	17,667	4,356	2,696	1,311
1873	133,000	16,920	4,128	2,439	1,243
1872	127,400	16,206	4,041	2,225	1,132
1871	121,500	15,394	3,804	2,360	1,131
1870	116,350	15,279	3,705	2,473	892‡
1869	111,350	14,654	3,625	2,267	891‡
Average of 10 years, 1869-78.	134,370	17,255	4,189	2,588	„

NOTES.—Population at Census, 1871, 120,234.

Average number of persons per house at Census, 1871, 7·8.

Area of Parish, 2,190 Statute Acres (according to Registrar-General).

* The population is estimated to the middle of the year. Between 1869 and 18 inclusive, a yearly addition has been made to the population based on the known increase between the Censuses of 1861 and 1871. The same principle has been adopted with regard to the number of inhabited houses, in the absence of specific information on this subject, such has as been forthcoming since 1871. Some of the figures in this and subsequent Tables differ from those in former reports, as the result of a revision of the estimated population, based upon the best attainable information. The population at the Census, 1861, was 70,108.

† The actual number of deaths registered in the Parish was 2,966, and it includes 106 deaths of non-parishioners at the Brompton Consumption Hospital, which are retained as a compensatory allowance for the deaths of parishioners that may have taken place in general hospitals, &c., out of the Parish. The total, 2,992, is made up by the addition of 26 deaths of parishioners from small-pox and "fever," that took place at the hospital of the Metropolitan Asylum District.

‡ The returns of marriages for the years 1869-70, do not include those that took place at the Superintendent Registrar's Office, concerning which I have no information.

TABLE II.

Showing Birth and Death Rate; Deaths of Children; and Deaths in Public Institutions in 1879, and 10 previous years.

The Year.	Births per 1000 of the population.	Death Rate per 1000 living.	Deaths of Children under 1 year per cent. to Total Deaths.	Deaths of Children under 1 year per cent. to Registered Births.	Deaths of Children under 5 years per cent. to Total Deaths.	Deaths at Public Institutions
1879	30.6	19.1	24.2	15.1	40.8	423*
1878	30.0	20.3	26.5	17.8	46.3	414
1877	30.8	17.3	25.3	13.9	40.8	354
1876	32.9	19.5	26.6	17.1	44.6	338
1875	31.2	19.4	25.0	15.6	40.3	338
1874	31.7	19.5	28.5	17.5	45.4	252
1873	31.4	18.3	27.0	15.9	40.0	272
1872	32.1	17.4	28.9	15.6	44.2	264
1871	31.3	19.4	25.0	15.0	41.6	252
1870	32.1	21.2	24.0	16.4	42.9	330
1869	32.5	20.3	†	†	†	313
Average of 10 Years, 1869-78.	31.6	19.2	26.3	16.1	42.9	312

* Viz. The Workhouse (287), the Hospital for Chest Diseases at Brompton (110), and the Infectious Diseases Hospitals (36).

† No information.

NOTE.—The calculations in this Table are made on the gross number of deaths registered without deduction of those of non-residents in public institutions. (Vide Report, page 46).



TABLE IV.

Showing Total Deaths from certain groups of Diseases and rate of mortality therefrom, &c.

Diseases.	Total Deaths.	Deaths per 1,000 of Population.	Proportion of Deaths to 1,000 Deaths.
1.—Seven Principal Zymotic Diseases	348	2·2	116
2.—Pulmonary Diseases (<i>other than Phthisis</i>) .	700	4·5	228
3.—Tubercular Diseases .	396	2·5	132
4.—Wasting Diseases of Infants (<i>under 5</i>) .	194	1·2	65
5.—Convulsive Diseases of Infants (<i>under 5</i>) .	215	1·3	72

NOTES.

- 1.—Includes Small-Pox, Measles, Scarlet Fever, Diphtheria, Whooping Cough, "Fever," and Diarrhoea. (Twenty-six of the deaths took place in Hospitals).
- 3.—Includes Phthisis, Scrofula, and Tabes.
- 4.—Includes Atrophy and Debility, Want of Breast Milk, and Premature Birth.
- 5.—Includes Hydrocephalus and Infantile Meningitis, Convulsions and Teething. (In Table III, Hydrocephalus and Infantile Meningitis are included with Tubercular Diseases, raising the total deaths in Order 2 of Class 2 "Constitutional Diseases" to 499.)

TABLE V.

Showing the number of Deaths in ten years, 1869-78, from the principal Zymotic Diseases, and the number in 1879, &c.

DISEASES.	1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	Annual Average 10 years 1869-78.	Proportion of deaths to 1000 Deaths in 10 years, 1869-78.	1879	Proportion of Deaths to 1000 Deaths, 1879.
Small-pox	6	8	120	68	1	0	0	8	84	24	31.9	12.3	24	7.6
Measles.....	27	70	64	43	38	121	23	128	54	53	62.1	24.0	60	20.0
Scarlet Fever	106	198	95	29	10	32	83	59	31	77	72.0	27.7	51	17.0
Diphtheria	9	14	11	14	11	26	23	17	10	20	15.5	6.0	26	9.0
Whooping Cough..	71	55	72	77	44	45	107	124	34	185	81.4	31.8	93	31.1
"Fever"	42	46	48	42	41	52	29	36	27	33	39.6	15.3	23	7.7
Diarrhoea.....	108	154	129	110	145	112	107	126	99	181	127.1	49.2	71	23.7
Totals, KENNINGTON	369	545	539	383	290	388	372	498	339	573	429.6	166.3	348	116.1
Totals, LONDON ...	17,431	16,476	19,455	12,669	11,385	11,230	13,411	12,565	12,365	14,734	14,175	181	12,256	143
TOTALS. ENGLAND & WALES, 10 years, 1868-77	1868	1869	1870	1871	1872	1873	1874	1875	1876	1877	Average 10 years 1868-77.	1868-77	1878	1878
	97,352	90,380	100,497	103,801	91,743	89,286	88,200	82,332	75,506	66,558	88,565	174	84,624	166

* The Totals for England and Wales are for the ten years 1868-77, as compared with 1878, the latest year of publication.

TABLE VIa.
Summary of Monthly Returns of Work, &c., done by the Sanitary Inspectors.

Date of Report.	Houses Inspected.			Mewses Inspected.			Slaughter Houses Inspected.			Cowsheds Inspected.			Bakehouses Inspected.			Offensive Trades Inspected.			Sanitary Notices Issued.			Removal of Dust, Ashes, &c., Letters of Request received and attended to.			Date of Report.								
	District.			District.			District.			District.			District.			District.			District.			District.											
	N.E.	N.W.	C.	S.	N.E.	N.W.	C.	S.	N.E.	N.W.	C.	S.	N.E.	N.W.	C.	S.	N.E.	N.W.	C.	S.	N.E.	N.W.	C.	S.									
Ap. 30, 1879	58	79	70	84	29	22	23	42	5	6	5	2	9	8	4	3	16	19	17	16	0	3	1	0	16	34	32	37	40	57	79	67	Ap. 30, 1879
May 28 "	62	75	68	74	36	24	27	46	7	5	5	2	8	10	6	4	28	22	13	11	4	2	2	0	30	31	16	25	56	61	60	56	May 28 "
June 25 "	73	72	64	69	32	26	23	34	8	6	5	2	9	9	8	3	26	28	15	12	5	4	5	2	33	39	19	42	69	86	42	67	June 25 "
July 23 "	68	70	65	72	36	28	21	32	7	8	5	2	10	9	8	2	36	29	16	22	4	6	2	1	35	29	18	32	49	55	36	63	July 23 "
Aug. 20 "	62	38	46	39	29	21	16	25	13	16	9	3	12	16	10	8	14	18	10	12	3	4	3	1	18	14	8	17	41	51	37	55	Aug. 20 "
Sept. 17 "	48	62	43	66	27	30	18	27	9	8	5	2	15	18	8	7	18	22	12	16	6	4	2	0	21	20	13	21	34	35	21	30	Sept. 17 "
Oct. 15 "	62	59	47	52	34	27	22	29	12	10	6	3	16	14	9	6	41	23	16	18	8	5	3	0	33	37	28	42	28	26	24	20	Oct. 15 "
Nov. 12 "	57	51	49	59	37	23	32	36	10	12	5	3	12	15	7	7	23	26	12	19	6	3	5	2	34	26	33	41	34	29	60	86	Nov. 12 "
Dec. 10 "	62	48	37	64	39	26	28	32	10	8	5	3	8	10	6	4	29	18	10	14	8	5	1	0	34	19	19	29	30	28	23	25	Dec. 10 "
Jan. 7, 1880	42	38	31	34	29	20	18	22	6	6	5	3	5	7	5	4	22	14	8	11	10	6	2	0	16	11	11	14	36	42	29	23	Jan. 7, 1880
Feb. 4 "	58	52	49	62	43	29	30	39	9	8	5	3	7	11	6	4	27	21	9	13	7	8	4	0	24	27	29	40	37	49	55	75	Feb. 4 "
March 3 "	72	81	60	74	61	34	48	42	9	14	10	8	6	7	12	16	16	7	10	15	12	1	5	0	36	57	28	50	49	60	60	52	March 3 "
" 31 "	86	92	81	96	59	41	46	48	16	14	10	8	12	14	16	8	26	18	16	15	8	3	3	0	63	75	67	82	35	44	30	38	" 31 "
Totals.	810	817	710	845	491	351	352	454	121	121	80	44	129	148	105	76	322	265	164	194	81	54	38	6	393	419	321	472	538	623	556	662	Totals.

TABLE VII.

Showing the Death-rate per 1,000 persons living ; the annual rate of Mortality per 1,000 living from the "seven" principal Zymotic Diseases ; and the proportion of Deaths from these Diseases to total Deaths in Kensington and all London in 1879, and in ten years, 1869-78

The Year.	Deaths per 1000 living.		Total Deaths from seven Zymotic diseases, Kensington.	Annual rate of Mortality per 1000 living from seven Zymotic Diseases.		Proportion of Deaths to 1000 Deaths from seven Zymotic diseases.		The Year.
	Kensington.	London.		Kensington.	London.	Kensington.	London.	
1869	20.2	24.6	369	3.3	5.5	164	227	1869
1870	21.2	24.1	545	4.6	5.1	222	213	1870
1871	19.1	24.7	542	4.4	6.0	233	242	1871
1872	17.0	21.4	390	3.0	3.8	181	179	1872
1873	18.3	22.5	290	2.1	3.3	119	149	1873
1874	19.5	22.5	388	2.8	3.3	144	147	1874
1875	19.4	23.7	372	2.5	3.9	133	164	1875
1876	19.5	22.3	498	3.3	3.6	172	162	1876
1877	17.3	21.9	339	2.2	3.5	129	160	1877
1878	20.3	23.5	573	3.7	4.1	183	175	1878
AVERAGES OF TEN YEARS.	19.1	23.1	430	3.1	4.2	168	181	AVERAGES OF TEN YEARS.
1879	19.1	23.3	348	2.2	3.3	116	143	1879

TABLE VIII.

Comparative Analysis of the Mortality in all London and in Kensington, in 1879. (The Registration Year comprised 53 weeks, and terminated January 3rd, 1880).

PERCENTAGE OF DEATHS TO TOTAL DEATHS.									
LOCALITY.	Annual Death Rate per 1000 living from all causes.	Annual Death Rate per 1,000 living from 7 principal Zymotic diseases.	Percentage of Deaths under 1 year to Births Registered.	Under 1 year of age.	At 60 years of age and upwards.	From Zymotic diseases.	From Violence.	Registered upon infor- mation of the Coroner. (Inquests.)	Registered at large Public Institutions.
London ...	23.3	3.3	14.8	23.2	22.6	14.3	3.4	6.4	18.5
Kensington ...	19.1	2.2	15.1	24.1	23.8	11.6	2.0	5.3	13.3

TABLE X.
PARISH OF ST. MARY ABBOTTS, KENSINGTON.

Return respecting the Vaccination of Children whose Births were Registered during the year 1879.

DATE.	Registration Sub-Districts comprised in Vaccination Officer's District.	Number of Births returned in Birth List Sheets.	Number of these Births duly entered in Columns 10, 11, and 13 of the Vaccination Register (Birth List Sheets) viz.:				Number of these Births which are not entered in the Vaccination Register, on account (as shown by Report Book) of			
			Column 10 Successfully vaccinated.	Column 11. Insusceptible of Successful Vaccination.		Had Small-pox.	Column 13. Dead. Un-vaccinated.	Postponement by Medical Certificate.	Removal to Districts, the Vaccination Officer of which has been duly apprized.	Removal to places unknown, or which cannot be reached, and cases not having been found.	Cases still under proceedings by summonses and otherwise.
1879.	1	2	3	4	5	6	8	9	10	
1st January } to 30th June }	Kensington Town	1853	1604	8	...	130	10	3	95	3
	Brompton	422	370	4	...	34	1	1	12	...
1st July } to 31st Dec. }	Kensington Town	1866	1572	11	...	170	29	4	74	6
	Brompton	486	414	5	1	35	9	3	19	...
	TOTAL ...	4627	3960	28	1	369	49	11	200	9

TABLE XI.

LICENSED SLAUGHTER-HOUSES.

SOUTH OF UXBRIDGE ROAD.

LOCALITY.	LICENSEE.
6, Church Street, Kensington -	Mr. Stimpson
11, Peel Place, Silver Street -	" Andrews
The Mall, Silver Street -	" Wright
183, Brompton Road -	Mrs. French
60, Kensington High Street -	Mr. English
15, High Street, Notting Hill -	" Short
133, ditto ditto -	" Candy
6, Addison Terrace ditto -	" Beall
35, Earl's Court Road -	" Matson

NORTH OF UXBRIDGE ROAD.

13, Archer Mews -	Mr. Bawcombe
20, Bolton Mews -	" Smith
195, Clarendon Road -	" Rush
10, Edenham Mews -	" Gibson
Tavistock Mews, Portobello Road	" Hughes
8, Vernon Mews, Portobello Road	" Young
196, Portobello Road -	" Scoles
Ledbury Mews -	" French
Lonsdale Mews -	" Olney
50, Princes Road, Notting Hill	" Parratt
10, Princes Mews ditto	" Cole
10, Princes Yard ditto	" Coles
Clarendon Mews ditto	" Colley
41, Princes Place ditto	
23, Norfolk Terrace -	" C. F. Matthews
61, Silchester Road -	" E. Matthews
235, Walmer Road -	" Van
Mary Place, Notting Dale -	" Nind
Royal Crescent Mews -	" Macpherson
Ditto ditto -	" Down

TABLE XII.

LICENSED COWSHEDS.

SOUTH OF UXBRIDGE ROAD

LOCALITY.	LICENSEE
7, The Mall, Notting Hill -	Mr. Edwards
St. Mark's Road, Fulham Road	" Starr
Melbury Road - -	" Tisdall
Newland Terrace - -	" Tisdall
Warwick Road - -	" Pool
Stratford Road - -	" Clarke
Addison Cottage, Lorne Gardens	" Lyons
Newcombe Street - -	" Lunn

NORTH OF UXBRIDGE ROAD.

191, Portobello Road - -	Messrs. Hughes and
3, 4, 5, Angola Mews - -	Mr. Jennings
Ledbury Mews - -	" Liddiard
187, Walmer Road - -	" Arnsby
235, Walmer Road - -	" Van
47, Tobin Street, Notting Dale	" Squires
12, Blechynden Mews - -	" White
14, ditto - -	" Copperwheat
15, ditto - -	" Salisbury
3, 4, & 5, Archer Mews - -	" Skingle
23, Bramley Road - -	" Tame
27, Queen's Road, Norlands -	" Williams
49, Tavistock Crescent - -	" Minter
Elm Cottage, St. Mark's Road	" Attfield
Clarendon Road - -	" Brumbridge

R 110

